

MARINE REVIEW.

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No. 2.

Suggestions for Lake Navigation.

The effort begun a few weeks ago in the Cleveland lodge of the Shipmasters' Association, to bring about certain changes in the pilot rules of the lakes, whereby it is intended especially to secure to the lakes the right to use passing signals in fog and to make the fog signal uniformly three blasts, is receiving due attention from both owners and masters. As noted in the proceedings of the Lake Carriers' Association, elsewhere in this issue, a meeting of owners and masters from all parts of the lakes is to be held in Cleveland on Saturday, Jan. 19, which will be after the meeting of the grand lodge, Shipmasters' Association, to make final arrangements for bringing this matter before congress. Following is a summary of the opinions of masters, upon which the changes in rules are to be based:

"We, as lake pilots, feel sure that the rules issued last spring forbidding the use by steamers of passing signals in thick weather invite danger in navigating the crowded waters and thoroughfares of the great lakes. We ask that these rules be suspended and we suggest the following as cardinal principles to be followed in formulating rules applicable to the lakes:

"That in thick weather the only fog signal to be used by a steamer or craft propelled by machinery shall be three distinct blasts of the whistle with an interval of one minute.

"That every vessel in tow of another vessel shall, in thick weather, make a fog signal at intervals of one minute by sounding four bells on a good and efficient and properly placed bell as follows: By striking the bell twice in quick succession, followed by a little longer interval, and then again striking twice in quick succession (in the manner in which four bells is struck in indicating time).

"That the following passing signals be used in all weathers: One blast to mean "I am directing my course to starboard," two blasts to mean "I am directing my course to port," and that neither of these signals be ever used with any other meaning or purpose under any circumstances.

"That each such craft when inspected by government officers be provided with a plain whistle which can be heard in ordinary weather at least two miles, and that such whistle be used for making all signals to other vessels, except that all raft towing steamers shall be provided in addition to such plain whistle with what is known as a modoc or screeching whistle, which shall always be used in making the fog signal of such steamer when towing a raft, but at no other time.

"That a steamer with a raft in tow, instead of the vertical bright lights required for other towing steamers, shall carry two mast-head lights arranged in a horizontal position athwartships at least 8 feet apart, and so fixed as to be visible all around the horizon at a distance of at least five miles.

"That each vessel in a tow, including the steamer, shall carry a single bright light at her stern which shall not be visible forward of the beam.

"That in all narrow channels (where there is a current) and in the rivers St. Mary, St. Clair, Detroit, Niagara and St. Lawrence, where two steamers are meeting, the descending steamer shall have the right of way, and shall, before the vessels shall have arrived within the distance of one-half mile of each other, give signals signifying which side she elects to take."

In General.

French navy estimates for next year call for an outlay of over \$17,000,000—an ironclad, two first-class, one second-class, and two third-class cruisers, twelve torpedo boats, and a dispatch boat.

Trinity House, the British corporation which controls the light-ships about the coast, insures the life of every man serving on board such ships for \$750 to \$1,000, the insured each paying \$1 a month.

Another foreign power, Sweden, has asked American armor plate manufacturers for bids on armor for a new battleship. The Carnegie company is figuring on the work, and as their competitors, the Bethlehem Iron and Steel Company, is already in possession of a contract from Russia, it may be expected that the big Pittsburgh concern will make a great effort to secure this second order.

Secretary Herbert has decided to build a sub-marine torpedo boat of the Holland type. The question was referred some time ago to the board of construction, which reported in favor of it. In view of experiments concerning the effect of explosives under water, the secretary referred it to the bureaus of steam engineering and construction and repair, requesting them to decide if it were not advisable, in view of the experiments, to

increase the thickness of the plating on the vessel, and if \$150,000 was a reasonable price for such a vessel. The bureaus, after a careful consideration, reported in favor of increasing the thickness of the plating from three-eighths of an inch to half an inch at the belt, tapering to three-eighths of an inch at the ends. The boat will be contracted for with these modifications, the price being satisfactory.

Shipbuilding statistics furnished by the United States commissioner of navigation show that during the quarter ending Dec. 31, 1894, there were built in the United States 123 vessels of 22,441.97 gross tons, of which forty-six of 13,740.29 tons were steam, and seventy-seven of 8,700.78 sail. During the previous quarter the number of vessels built was 218 of 24,576.34 tons, and of these eighty-four of 13,878.68 tons were steam and 134 of 11,697.66 tons were sail.

Miscellaneous Mention.

One-sixteenth of the Cleveland steamer C. J. Kershaw has been sold to William H. Mack on a basis of \$42,000 valuation.

Capt. J. S. Dunham of Chicago on Jan. 1 divided \$265 among two captains and two engineers on his tugs who made the best records for efficiency.

A report of lake commerce at Milwaukee, prepared by Capt. James F. Trowell, places the receipts of coal for the season of 1894 at 1,236,959 net tons, of which 783,818 tons was bituminous and 453,141 tons anthracite.

Frances J. Wing has joined Messrs. Goulder and Holding of Cleveland in law business, and the firm is now Goulder, Wing & Holding. Mr. Wing has for some years past been regarded among the best lawyers of Cleveland.

Canadian government officials have about completed the survey of Georgian bay, and next season they will begin a survey of Lake Huron. An effort will be made to secure a new steamer for carrying on this work, as the steamer Bayfield, which is nearly forty years old, is hardly fit for continuing the survey.

Following are the new officers of lodge No. 6, Shipmasters' Association, of Milwaukee: President, Capt. Charles M. Davis; first vice-president, Capt. John Wright; second vice-president, Capt. James Bruce; treasurer, Capt. Fred. C. Starke; secretary, Capt. John McSweeney; trustee for three years, Capt. Harry Leisk.

M. E. B. A. No. 3, of Detroit: President, A. L. Jones; vice-president, T. J. Kelly; recording secretary, Ed R. Dungan; corresponding secretary, George Gourly; financial secretary, Frank Kenyon; treasurer, Ed R. Blanchard; conductor, Charles A. Fletcher; doorkeeper, John Coleman; chaplain, J. K. Finehart; representatives to national convention, J. M. Cronenwett and Ed R. Blanchard.

Capt. John R. Jones died at his home, No. 26 Fish Ave., Cleveland, Wednesday. He had been in the Grummond line for some time, and his last command was the State of Michigan. He was on the lakes since he came out of the war, taking command of a vessel when quite young. He lived in Detroit for some time, but moved to Cleveland as his longest lay-over was here. The remains were taken to Port Huron for burial, which is to be directed by the K. O. T. M., of which Capt. Jones was a member.

Several times of late the Metropolitan Land and Iron Company, controlling the Norrie and Pabst mines, Gogebic range, has considered propositions to purchase some of the smaller mines in the vicinity of their big properties that have not proved profitable under managers who have been hampered by limited capital and other disadvantages. Two or three proposed purchases of this kind have again been considered within the past few weeks, but it is not probable that anything definite will result from the negotiations.

The peculiar change which copper and bronzes undergo when fluxed with phosphorus are not well understood, but the effects are fully appreciated, as strength and toughness are increased and liability to corrosion decreased. For these reasons phosphor-bronzes are being used very largely in marine and railway construction. The charging of the phosphorus into the molten metal must be done with considerable system and care. This part of the operation may be safely and easily accomplished by the aid of phosphorus chargers or phosphorizers made of plumbago. The Jos. Dixon Crucible Company Jersey City, N. J., who make plumbago goods in great variety for metallurgical purposes, also make these phosphorizers in different sizes, suited to the size of the crucible in which the fluxing is to take place.



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PRESIDENT OF THE LAKE CARRIERS' ASSOCIATION,

MR. WM. LIVINGSTONE, JR., DETROIT, MICH.

NEW TONNAGE FOR 1895.

REPORTS OF SHIP BUILDING IN PROGRESS IN LAKE, COAST AND RIVER YARDS.—THE REPORT SHOWS MORE SHIP BUILDING THAN IN 1893, AND INQUIRIES FOR NEW TONNAGE INDICATE A PROSPEROUS YEAR FOR SHIP-BUILDING INTERESTS.

The table below shows that there is under contract in lake ship yards twenty-nine vessels having a freight carrying capacity of 33,150 gross tons on 16 feet draft, and a valuation of \$2,932,500. While this includes all that can be reported definitely, it is very probable that contracts for six more large vessels will be placed within the next thirty days, increasing the figures given above to thirty-five vessels, with a carrying capacity of 43,000 gross tons and a valuation of \$3,742,500.

VESSELS UNDER CONTRACT IN LAKE SHIP YARDS EACH YEAR FOR NINE YEARS PAST.

December 31.	Number of boats.	Capacity, gross tons.	Valuation.
1886.....	31	65,750	\$4,074,000
1887.....	60	108,525	8,325,000
1888.....	59	100,950	7,124,000
1889.....	56	124,750	7,866,000
1890.....	38	77,950	5,337,000
1891.....	45	76,000	4,896,000
1892.....	49	68,470	6,909,500
1893.....	28	26,400	2,538,500
1894.....	29	33,150	2,932,500
Total.....	395	681,945	\$50,002,500

The reports from coast yards show an improvement over the report of 1893. The valuation of merchant vessels building in coast yards is \$2,069,885, exclusive of the two American liners building at the Cramps yard, which would increase the valuation to \$5,069,885. In river yards there are \$208,000 worth of new craft, mostly steamers, building. The carrying capacity of the new vessels on the coast, which is largely made up of Maine-built schooners, is 12,200 tons. Exclusive of the Atlantic liners the valuation is about \$500,000 more than either of the two previous years. This part of the report will be found of more value than previously on account of its freshness, as most of the contracts mentioned were made recently. Our thanks is due to coast ship builders for their courtesy, and advertisers who take advantage of this information will congratulate the MARINE REVIEW in being the only marine paper in the United States that takes the trouble to compile this information for the benefit of ship owners and builders, and the convenience and profit of those who furnish material or have business relations with them.

REPORT OF SHIP BUILDING IN COAST YARDS.

The Wm. Cramp & Sons Ship and Engine Building Co., Philadelphia, Pa.—Two American line ships, St. Louis and St. Paul, for the International Navigation Company. The dimensions are, 554 feet 2 inches over all, 535 feet 8 inches on water line, 63 feet beam, 42 feet depth of hold, two quadruple expansion engines. Their naval work consists of the battle-ships Oregon and Massachusetts nearly completed, and the Iowa and Brooklyn to be completed next year.

Delaware River Iron Ship Building & Engine Works, Chester, Pa.—Three ferry boats for the Brooklyn and New York Ferry Co. They are 167 by 62 by 14 feet depth, and are valued at \$100,000 each. In addition to this they have a yacht under contract for Gardner & Cox, New York. The dimensions are 138 by 18 by 9 feet 11 inches, and the value is \$50,000.

The Harlan & Hollingsworth Co., Wilmington, Del.—A screw steamer, to be named the Howard, for the Merchants' and Miners' Trans. Co. of Baltimore, Md. Her dimensions are 270 feet on water line, 42 feet beam and 32 feet deep; value, \$320,000.

The New England Company, Bath, Me.—A side-wheel steamer, Bay State, for the Portland Steam Packet Company, 280 feet long, 42 feet wide; value, \$225,000. For the International Steamship Co., Portland, Me., they

VESSELS UNDER CONTRACT IN LAKE SHIP YARDS JAN. 1, 1895.

BUILDERS.	CLASS.	DIMENSIONS.	Capacity of freight vessels, gr. tons, 10 ft. dft	VALUE.	ENGINES.	FOR WHOM BUILDING.
Globe Iron Works Co., Cleveland, O.....	Steel pass. stmr.	386 x44 x34	.....	\$700,000	Twin triple exp.	Northern Steamship Co., Buffalo, N.Y.
Cleveland Ship Building Co., Cleveland, O.....	Steel frt. stmr.	343 x42 x27	3700	160,000	Triple exp.	M. M. Drake, Buffalo, N. Y.
Chicago Ship Building Co., Chicago, Ill.....	Steel frt. schr.	320 x40 x24	3500	95,000	.....	Minnesota Steamship Co., Cleveland, O.
" " " " "	Steel frt. schr.	320 x40 x24	3500	95,000	.....	" " " " "
Detroit Dry Dock Co., Detroit, Mich.....	Steel pass. stmr.	175 x28½ x10½	.....	80,000	Beam engine.	Sandusky & Id. S.S. Co., Sandusky, O.
" " " " "	Wood. frt. stmr	203 x35½ x15	1350	65,000	Compound.	C. R. Jones & Co., Cleveland, O.
F. W. Wheeler & Co., West Bay City, Mich.....	Steel frt. stmr.	370½ x44½ x27	3900	168,000	Triple exp.	Mitchell S. S. Co., " "
" " " " "	Steel frt. stmr.	372 x44½ x27	3900	175,000	Triple exp.	Eddy Bros & Shaw, Bay City, Mich.
Craig Ship Building Co., Toledo, O.....	Wood. car ferry.	260 x53 x	.....	150,000	Three compound.	U. S. & Ontario S. N. Co., Meadville, Pa.
" " " " "	Wood. car ferry.	260 x53 x	.....	150,000	Three compound.	" " " " "
Davidson, Jas., West Bay City, Mich.....	Wood. frt. stmr.	330 x43 x26	2800	140,000	Triple exp.	Builders account.
" " " " "	Wood. frt. stmr.	330 x43 x26	2800	140,000	Triple exp.	" "
Bertram Engine Works, Toronto, Ont.....	Wood. frt. schr.	245 x41 x22	2866	80,000	.....	St. Lawrence River Passenger Trade.
" " " " "	Steel pass. stmr.	140 x25 x7½	.....	75,000	Compound.	" " " " "
American Steel Barge Co., Superior, Wis.....	Steel pass. stmr.	110 x17 x6½	.....	60,000	Single non-cond.	Standard Oil Co., New York, N. Y.
Smith, Abram & Co., Algonac, Mich.....	Steel oil barge.	170 x33 x17	.....	60,000	.....	" " " " "
Anderson, Alex., Marine City, Mich.....	Steel oil barge.	170 x33 x17	.....	60,080	.....	Builders account.
Jenks Ship Building Co., Port Huron, Mich.....	Wood. frt. stmr.	200 x36 x13	1500	68,000	Compound.	Jesse Farwell, Detroit, Mich.
Collingwood Dry Dock Co., Collingwood, Ont.....	Wood. frt. stmr.	180 x30 x12	1100	45,000	Compound.	Builders' account.
John Simpson, Owen Sound, Ont.....	Wood. frt. stmr.	203 x35 x13	1350	65,000	Compound.	Great Northern Transportation Co.
Campbell's Yard, Charlevoix, Mich.....	Wood. pass. stmr.	225 x35 x12	.....	100,000	Compound.	North Shore Navigation Co.
Bell's Steam Engine Works, Buffalo, N. Y.....	Wood. pass. stmr.	160 x26 x 9	.....	80,000	Beam (Sidewheel.)	Monroe & Nicholls.
John E. Monk, Sandusky, O.....	Wood. frt. stmr.	135 x29 x10	950	28,000	Steeple Compo'nd.	Builders' account.
E. W. Heath, Benton Harbor, Mich.....	Steam yacht.	59 x10 x 5	.....	*10,000	Twin high pr's ure	" "
Grand Haven Ship Bldg. Co., Grand Haven, Mich.....	Yacht.	70 x16 x 7	.....	5,000	.....	G. T. Arnold Trans. Co., Mackinaw, Mich.
Burger & Burger, Manitowoc, Wis.....	Wood. pass. stmr.	126 x22 x10	.....	50,000	.....	W. H. Singer, Ashland, Wis.
	Wooden tug.	95 x20 x12	.....	13,000	.....	James McCann, Beaver Island, Wis.
	Wooden tug.	75 x15 x 7	.....	7,000	.....	Leathem & Smith, Sturgeon Bay, Wis.
	Wooden tug.	85 x— x—	.....	* 8,500	Compound.	

*Estimated.

A comparison with the table showing building in progress at this time during nine years past will show that there is an improvement over 1893, but that the figures are still less than half of any previous year. It is encouraging, however, as it shows that the volume of freight is increasing faster than new tonnage, and will soon surpass it. When it does the prosperity of 1887, 1888 and 1889 will be repeated in lake ship building. Contracts pending that are mentioned above are mostly for passenger boats, and almost a fourth of the valuation of new tonnage is credited to that class of boats. This part of the lake business has been neglected in times past when the large profits attracted all the capital to the freight carrying business.

are building a propeller, the St. Croix, the engines being built by the Portland Company. Her dimensions are 262 feet long, 41 feet wide and 25 feet deep; value, \$100,000.

Bath Iron Works, Bath, Me.—The U. S. S. harbor defense ram Katahdin, under construction, 253 by 42 by 19 feet; value, \$1,400,000; and have recently contracted to build a steel yacht for R. H. White, Boston, Mass., 153 feet long and 23 feet beam; value, \$100,000.

Newport News Ship Building and Dry Dock Company, Newport News, Va.—In addition to the three gun-boats this company is building a \$224,000 passenger steamer for the Washington line, and a \$20,000 tug.

Neafie & Levy Ship and Engine Building Co., Philadelphia, Pa.—A screw passenger steamer for the Boston & Gloucester Steamboat Company, 185 by 28 by 14 feet 4 inches depth; value, \$101,085.

John H. Dialogue & Son, Camden, N. J.—A tug for the U. S. government, 108 by 22 by 12½ feet deep; value, \$36,000.

Maryland Steel Co., Marine Dept., Sparrows Point, Md.—A tug for the Trinidad Sugar Co., Newark, N. J., the Manati, and four barges. The tug is 70 by 17 by 5½, 21 tons, value, \$14,000; and the valuation of the barges is \$24,000. They are also building \$18,000 worth of machinery for a lighter for the B. & O. R. R. Co.

The Atlantic Works, East Boston, Mass.—A wooden hull yacht, 122 by 17 by 7½ feet; value, \$35,000.

Dunn & Elliot, Thomaston, Me.—Recently launched a 4-masted schooner, 185 feet, 210 over all, 41 feet beam, and 19 feet hold.

Nathaniel T. Palmer, Bath, Me.—A schooner 200 feet keel, 42 feet beam and 19 feet hold; capacity 1,500 tons; value, \$60,000.

John M. Brooks, 334 Border street, East Boston, Mass.—A fire boat for the city of Boston, 110 by 26 by 10 feet hold; value, \$55,000. Brown & Miller, Jersey City, N. J., are building the engines.

R. F. Keough, Boston, Mass.—A steam yacht.

Geo. Lawley & Son, Corporation, So. Boston, Mass.—Two yachts 31 and 12 by 8 feet; value, \$2,400.

The Merrill-Stevens Engineering Co., Jacksonville, Fla.—A side-wheel passenger and freight steamer, 115 by 22 by 7½ feet, for Capt. H. L. Roan, Punta Gorda, Fla., valued at \$25,000.

C. V. Minott, Phippsburg, Me.—A 4-masted schooner 193 feet keel, 1,200 tons; value, \$50,000.

Tarr & James, Essex, Mass.—A center-board schooner by the Pigeon Hill Granite Co., Rockport, Mass., 92 feet long, 106 feet over all, 27 feet beam; value, \$10,000; and a fishing schooner 100 feet over all, 25 feet beam and 10 feet deep, for Andrew Mackenzie, Gloucester, Mass.

Brusstar Ship Building Company, Baltimore, Md.—A fishing steamer for Hinton & Toulson, Reedsville, Va., 110 by 19 by 8½ feet deep, with a capacity for 400,000 fish, 86 net tons, value \$19,000, and a scow with a gas engine for the Monumental Chemical Co. 85 by 20 by 7 feet deep, 150 tons, value \$6,000.

A. M. Gammage & Co., So. Bristol, Me.—A boat for J. A. Beal, West Jamesport, Me., 53 feet long, 16½ feet beam and 6½ feet deep, value \$3,000.

Elmer A. Ely, Middletown, Conn.—A steam yacht for T. C. O'Brien, 65 by 13 feet to have Sullivan engines and Roberts boiler, value \$3,000. Two cat boats are building at same yard 21 and 25 feet long, valued at \$250 and \$425.

Sawyer Bros., Milbridge, Me.—A four-masted schooner 175 feet long, 38 feet beam and 18 feet deep, estimated value \$35,000.

Fillmore A. Baker, Ocean ave, Patchogue, L. I.—A sloop yacht, and a steam launch, valued at \$2,400.

Kelly & Spear, Bath, Me.—A \$30,000 dredge.

Gardiner G. Deering, Bath, Me.—A 1,100 ton schooner, value \$45,000.

Percy & Small, Bath, Me.—Four-masted schooner, 1,400 tons, value \$55,000.

Wm. T. Donnell, Bath, Me.—A \$50,000, four-masted schooner, 1,200 tons.

REPORT OF SHIP BUILDING IN GULF AND RIVER SHIP YARDS.

C. L. Seabury & Co., Nyack, N. Y.—Five steam yachts, the over all length of which are as follows: 120, 65, 60, 48 and 35 feet.

M. G. Knox & Son, Marietta, O.—Two river steamers. One, a duplicate of the Highland Mary, is 142 by 31 by 5 feet depth, 350 tons capacity, and valued at \$20,000; the other is 125 by 22 by 4 feet, 160 tons capacity, and valued at \$12,000. Both are for Scott, Wallace & Co., Zanesville, O., and the Marietta Mfg. Co. build the machinery.

W. D. Crammond, Hawesville, Ky.—A steamer and five barges. The steamer is 170 feet long, by 32 by 6 feet depth, has a capacity for 700 tons, and is valued at \$16,000. The barges are 100 by 20 by 6 feet and are valued at \$800 each.

The Godfrey Marine Ways Co., Lyons, Iowa.—Three stern-wheel steamers and two barges. One for the Moline (Ill.) Navigation and Excursion Co., is 80 by 19 feet, 80 tons capacity, value \$5,000; one for W. M. Davis, Stillwater, Minn., is 110 by 22 feet, 125 tons capacity, value \$9,000; one for Red River Trans. Co., Grand Forks, Dak., is 135 by 26 feet, 195 tons capacity, value \$14,000; the two barges for the same company are 100 by 20 feet, 195 tons, and are valued at \$2,000 each.

Chattanooga Marine Ways and Construction Company, Chattanooga, Tenn.—Twelve barges for the U. S. Government, 135 by 28 by 5½ feet, 400 tons capacity, value \$4,000.

Diamond Jo Boat Yard, Dubuque, Ia.—A steamer to be called Pittsburgh for the Diamond Jo Line. She is 255 feet long, 40 feet beam and 6 feet deep; estimated value \$35,000.

O. A. Hermanson, Lake Charles, La.—Two barges for Fred A. Brock, Galveston, Tex. They are 130 by 30 by 9 feet, 250 tons, and are valued at \$5,000 each.

J. M. Carpenter, Natchez, Miss.—Nothing building at present.

The Lutcher & Moore Lumber Co., Orange, Tex.—A decked barge 160 by 36 by 8 feet hold, 600 tons, value \$6,000.

David S. Barnmore, Madison, Ind.—Nothing at the Madison Marine Ways.

Iowa Iron Works, Dubuque, Ia.—Under contract, but nearly finished, the Ericsson and Wm. Windom for the Navy Department, and the Treasury Department. The former is 150 by 15½, valued at \$113,500, and the latter is 170½ by 27 and is valued at \$98,500.

James Rees & Sons, Pittsburgh, Pa.—Engines 13x60 inches, and three 38-inch by 22-foot boilers for Hudson Bros., Allegheny river packet, 150 feet long, 28 foot beam and 4 feet deep.

Relief Tow Boat Co., New Cumberland, W. Va.—Tow boat building at Brownsville, Pa., engines building at James Rees & Sons, Pittsburgh, Pa.

U. S. NAVAL VESSELS UNDER CONSTRUCTION.

NAME.	Displace- ment, tons.	Horse power.	Cost of hull and machinery	WHERE BUILDING.
Texas	6,300	8,000	\$2,500,000	U. S. Navy Yard, Norfolk, Va.
Raleigh	3,183	10,000	1,100,000	" " Brooklyn, N. Y.
Maine	6,648	9,000	2,500,000	Union Iron Works, San Francisco, Cal.
Oregon	10,200	9,000	3,180,000	Wm. Cramp & Sons, Philadelphia, Pa.
Massachusetts	10,200	9,000	3,020,000	" "
Indiana	10,200	9,000	3,020,000	" "
Iowa	11,296	11,000	3,010,000	" "
Brooklyn	9,153	16,000	2,986,000	Newport News (Va.) Ship Bldg. & D. D. Co.
Gunboat No. 7	1,261	1,750	280,000	" "
Gunboat No. 8	1,313	1,600	280,000	" "
Gunboat No. 9	1,313	1,600	280,000	" "
	71,067	85,950	\$22,156,000	

SHIP BUILDING STATISTICS FURNISHED BY THE COMMISSIONER OF NAVIGATION, FOR THE SIX MONTHS ENDING DEC. 31, 1894.

	STEEL STEAM.		WOOD'N STEAM.		WOODEN SAIL.	
	Number.	Gross tons.	Number.	Gross tons.	Number.	Gross tons.
Atlantic and gulf.....	10	4,330.78	49	2,692.76	177	18,923.79
Pacific.....	1	2,556.37	8	1,249.55	24	1,259.07
Great lakes.....	2	5,619.87	27	4,687.55	10	206.58
Western rivers.....	3	576.82	19	3,805.27		
Total.....	16	13,083.84	103	12,435.13	211	20,389.44

Indirect report of ship building in the United states during the past six months:

J. S. Beacham & Bro. Baltimore, Md., will build a three-masted schooner, 115 feet long and 23½ feet beam.

C. Morton Stewart & Co. Baltimore, Md., will have a barkentine, 189 feet long and 36½ feet beam, 17 feet deep, built at Belfast, Me., for the Brazil coffee trade.

John Bishop, Essex, Mass., is to build a ship for Capt. Mark Mitchell.

Capt. M. P. Brown, Marcellus, N. Y., will build two new steamers for Lake Onondaga passenger trade.

The New York Ship Building and Engineering Company, 1 Broadway, New York, is reported building a steam yacht for Richard K. Fox.

Robert Palmer, Noank, Conn., is building six barges and two yachts.

Pusey & Jones Co., Wilmington, Del., will build a steam yacht for Henry J. Gielow, 140 feet over all, 115 feet on water line, 17 feet beam and 6 feet deep.

The Montauk Steamboat Company will build a new steamer for the New York, Sag Harbor route, 250 feet long. It is reported that the contract will go to the Harlan & Hollingsworth Co., Wilmington, Del.

The American Steel Barge Company, Everett, Wash., is figuring on a small high speed passenger steamer for the Seattle-Tacoma route.

Arthur D. Story, Essex, Mass., will build a \$25,000 steamer, 110 feet long, for the Winthrop Steamboat Co.

The Wm. P. Clyde Company, New York, N. Y., will build a 3,500 ton steamer with quadruple expansion engines for their Charleston-Jacksonville route.

The Jackson & Sharp Company, Wilmington, Del., are building a number of floats, barges and lighters.

The following yards report nothing building:

Frank S. Bowker, Phippsburg, Me.; William McKie, Border st., E. Boston, Mass.; H. M. Bean, Camden, Me.; E. S. Crosby, Bath, Me.; The Columbian Iron Works & Dry Dock Co., Baltimore, Md.; C. P. Carter & Co., Belfast Me.; Eastern Steamboat Co., Bath, Me.; Arthur Sewall & Co., Bath, Me.; John P. Smith, Nyack, N. Y.; The J. C. Lake & Son Co., Baltimore, Md.

Lake Ship Building Notes.

The summary of lake ship building contracts that appears on another page will, of course, be supplemented by a few additional orders before the work of the ship yards for the winter is entirely closed up, as negotiations are still pending on some important contracts. John Corrigan of Cleveland has asked for bids on a steel schooner 330 by 42 by 27 feet, to tow behind his steamer Aurora, and the Minnesota Steamship Company is still figuring on the 400-foot ore carrier and two additional tow barges, on which they asked for bids several weeks ago. The Cleveland and Buffalo Transit Company will undoubtedly let a contract shortly for the big \$300,000 passenger boat, for which they are considering plans, but it is not intended to have this boat ready for service at any time this year.

J. W. Gilman, superintendent of the Goodrich line, writes that nothing has been determined as to the new boat for their line. Neither has anything been concluded regarding the proposed new boat for the Graham & Morton line.

Dunbar & Sullivan are building at Sault Ste. Marie, Mich., a steel dump scow of 800 tons capacity, 160 feet over all, 25 feet beam, and 11 feet deep, with 16 water tight compartments and eight pockets.

James Pullar of Sault Ste. Marie, Mich., is building for Carkin & Stickney, dredging contractors, a wooden hull for a dredge, to cost \$4,000. He has plans prepared for a small marine railway.

Rogers & Bird, Saugatuck, Mich., are not building this season, but are putting a new cabin on the steamer Bon Ann. Their Bon Voyage and a tug they have are for sale.

The hull building by Abram Smith & Son, Algonac, Mich., may be used as a tow barge one season before machinery is placed in it.

L. P. and J. A. Smith of Cleveland will probably build one or two large steel tugs, 100 by 22 by 13 feet, at Cleveland before spring.

J. J. Hill, Marine City, Mich., is still considering estimates on the construction of a fast twin-screw steamer for river service.

F. A. Blackburn, Benton Harbor, Mich., is building a hydraulic dredge.

Capt. Dan'l Moore, Gibralter, Mich., is building a small schooner.

F. J. Preston, Ludington, Mich., is building a small schooner.

OTHER GENERAL SHIP BUILDING NOTES.

Howards' yard at Jeffersonville, Ind., is usually full of new work, but no report was received up to the time of publication and no information could be had as to contracts that had been placed there. Capt. Howard is said to be negotiating to build a 250-foot steamer to cost \$50,000.

D. M. Swain, Stillwater, Minn., built during the past year a yacht engine and boiler for Wm. Miller, Hennepin, Ill.; a pair of engines for a stern-wheel boat for Jeffords Bros., Kingston, Ill., and river craft to the amount of 1,000 net tons.

No report was received from Herreshoff Bros., Bristol, R. I., but they have several fast steam yachts under contract. One is said to be for T. R. Hostetter, and is to be 130 feet long.

Yards from which no report was received:

Samuel H. Barbour, Brewer, Me.; McDonald & Brown, Belfast, Me.; L. W. Shafner, Clementsport, N. S.; C. D. Miller, Poughkeepsie, N. Y.; Stillman Saunders, Saunderstown, R. I.; McEntee & Rodie, Rondout, N. Y.; Fulton Iron Works, Harbor View Yard, San Francisco, Cal.; T. S. Marvel & Co., Newburgh, N. Y.; Pamlico Railways, Washington, N. C.; C. B. Harrington, Bath, Me.; Morse Ship Building Co., Bath, Me.; Gardner B. Reynolds, Newport, R. I.; White's yard, Oakland, Cal.; McDonald Anderson, New London, Conn.; Gesner & Mar, West Haven, Conn.; The Sweeny-Fry Co., Jeffersonville, Ind.; Waterman, K. Pryor, City Point, S. Boston, Mass.; Port Clyde, Marine Railway Co., Port Clyde, Me.; Wright & Hague, Oakland, Cal.; Chautauqua Steamboat Co., Jamestown, N. Y.; Portland Steam Packet Co., Portland, Me.; H. D. Bendixsen, Eureka, Cal.; Noble Times, Fairport Va.; Willard A. Burnham, Essex Mass.; S. H. Pine, 139 Noble st., Brooklyn, N. Y.; C. Reeder & Sons, Baltimore, Md.; The James Clark Co., Baltimore, Md.; C. & R. Poillon, foot Clinton st., Brooklyn, N. Y.; The Samuel Moore & Sons Co., Elizabeth, N. J.; Phillip H. Gill, Brooklyn, N. Y.; Axtion & Son, W. Brownsville, Pa.; A. R. Reed, Waldoboro, Me.; Harrison Loring, City Point Works, Boston, Mass.; Perkins & Blaisdell, Bath, Me.; C. P. Carter & Co., Belfast, Me.; B. Jackson, Jr., Kennebunkport, Me.; Chas. Hillman, S. & E. B. Co., Philadelphia, Pa.; J. H. Crandon, Columbia Falls, Me.; E. J. Brennan, Columbia, S. C.; Spencer Island Co., Spencer, N. B.; A. Eldridge, Tottenville, N. Y.; Capt. Fogg, Bucksport, Me.; W. I. Adams, E. Boothbay, Me.; A. R. Reed & Co., Waldoboro, Me.; Wm. E. Woodall & Co., Baltimore, Md.; Hugh Ramsay, Perth Amboy, N. J.; C. G. Whitem, Oakland, Cal.; Washburn, Bros., Thomaston, Me.; Dickie Bros., 54 Mission st., San Francisco, Cal.; Henry Sutton, West Haven, Conn.; G. A. Gilchrist, Rockland, Me.; Portland Marine Railway, Portland, Me.; Capt. Luther, So. Sioux City, Ia.; Capt. Combs, Camden, Me.; Ambrose Martin, E. Boston Mass.; Capt. G. M. McLain, Essex, Mass.; Hitchings & McWhinney, Eureka, Cal.; J. Walton & Co., Elizabeth, Pa.; Hodge Bros., Boothbay, Me.; J. W. Carpenter, Natchez, Miss.; Hall Bros., Port Blakely, Wash.; Wm. Christenson, Kennebunkport, Me.; I. L. Snow & Co., Rockland, Me.

Lake Vessels that Passed out of Existence in 1894.

Losses in vessel property during the season of 1894 have been very much smaller than in previous years. The following statistics are presented with a view to showing simply the capacity and value of lake vessels that have actually passed out of existence. With existing regulations regarding reports of accidents to shipping, it is impossible to present even fair estimates of losses due to strandings, partial damage from fire, etc. Therefore no account is taken here of any loss excepting where the vessel really ceases to be a competitor in the carrying trade, as it is largely for the purpose of making a comparison between lost and new tonnage that the figures are prepared. The table shows that during the year fifty-four vessels of 31,415 net tons carrying capacity and \$522,750 value have passed out of the lake trade, none of which will be rebuilt. Compared with previous seasons, the losses were as follows:

Year.	Number of vessels.	Capacity, net tons.	Vslue.
1894.....	54	31,415	\$ 522,750
1893.....	65	41,625	1,172,200
1892.....	57	28,708	1,014,250
1891.....	52	27,496	564,800
1890.....	34	16,306	757,000

VESSELS LOST ON THE LAKES, SEASON OF 1894.

Name of vessel.	Capacity, net tons.	Value.	Cause
Stmr. Barnum, W. H.....	1,800	\$35,000	Foundered
Stmr. Minneapolis	1,550	45,000	Foundered
Schr. Island City.....	200	700	Foundered
Stmr. Burlington.....	550	10,000	Burned
Tug Truant.....	.....	2,250	Burned
Tug. Smith, A. L.....	.....	2,000	Burned
Stmr. Ohio.....	1,600	40,000	Collision
Stmr. Pickands, James.....	2,050	95,000	Stranded
Stmr. Roanoake	1,800	50,000	Burned
Stmr. Wilson, D. M.....	1,150	30,000	Foundered
Stmr. Ocean.....	750	20,000	Foundered
Schr. American.....	600	4,000	Foundered
Schr. American Union.....	1,000	10,000	Stranded
Schr. Ellsworth, Lem.....	640	6,000	Foundered
Schr. Bradley, Alva.....	1,300	22,000	Foundered
Schr. Cook, Col.....	500	2,500	Stranded
Schr. Cooper, Lottie.....	475	4,000	Foundered
Schr. Cummings, M. J.....	650	6,500	Stranded
Schr. Dall, Lincoln.....	450	2,500	Stranded
Schr. Evening Star	450	2,500	Stranded
Schr. Gage, Moses.....	400	2,100	Stranded
Schr. Prince Alfred.....	700	4,000	Stranded
Schr. Moore, H. B.....	300	1,200	Stranded
Schr. Hartford	750	4,500	Foundered
Schr. Home, Wm.....	650	5,000	Foundered
Schr. Ironton.....	1,450	16,000	Collision
Schr. McLaren, J. L.....	525	9,000	Stranded
Schr. Mercury	400	3,000	Stranded
Schr. Mixer, C. G.....	450	2,000	Stranded
Schr. Myrtle.....	375	1,800	Foundered
Schr. Rainbow.....	450	2,500	Stranded
Schr. Shupe, W m.....	525	3,500	Stranded
Schr. Thompson, Jack.....	375	3,000	Stranded
Schr. Ida.....	250	1,500	Stranded
Schr. Ida Keith*	900	2,500	.....
Schr. Wyandotte*	600	2,500	.....
Schr. Mullen, Jennie.....	400	2,500	Stranded
Schr. Shaw, John.....	1,750	38,000	Foundered
Schr. Baltic	450	2,500	Stranded
Schr. Fort, D. G.....	650	4,200	Stranded
Schr. Guthrie, L. M	250	1,500	Stranded
Schr. Antelope	100	400	Foundered
Schr. Miner, Julia.....	100	600	Stranded
Schr. Silver Lake.....	175	1,800	Stranded
Schr. Whiting, Lulu.....	75	500	Stranded
Schr. Gazelle.....	150	800	Foundered
Schr. Glad Tidings.....	150	800	Collision
Schr. Speed.....	100	600	Stranded
Schr. Magnolia.....	175	1,000	Stranded
Schr. St. Catharines	75	500	Stranded
Schr. Antelope.....	75	500	Foundered
Schr. Ada.....	125	200	Stranded
Tug Crusader.....	.....	10,000	Burned
Tug Heald, Joseph.....	.....	2,000	Burned

Total..... 31,415 \$522,750

*Released but not worth rebuilding in any way.

The season was almost entirely free of collision losses, and the vessels that have gone were as a rule the smaller class.

The Standard Oil Barges.

Several lake builders bid for the construction of two barges for the Standard Oil Company, New York, and the contract was awarded to the American Steel Barge Company, West Superior. The amount of the successful bid is not known, but it is thought most builders bid high on account of the joints which were required to be oil-tight. How the joints are made and other peculiar constructional points are shown in the accompanying drawings, furnished by John Haug, Philadelphia, the architect who prepared the plans. He has designed oil steamers that carry 10,000 barrels and barges that hold 15,000 barrels. The barges building at West Superior are designed for 8,000 barrels. They are 170 feet long, 33 feet beam and 17 feet deep. The size will permit of them being taken to the coast through the St. Lawrence canals in the winter when they cannot be used on the lakes.

Attention is called to the bulk-head stiffening, which is arranged on one side only, leaving the other side unobstructed for caulking. It is con-

Trade Notes.

Worthington pumps are used throughout on the American liner St. Louis.

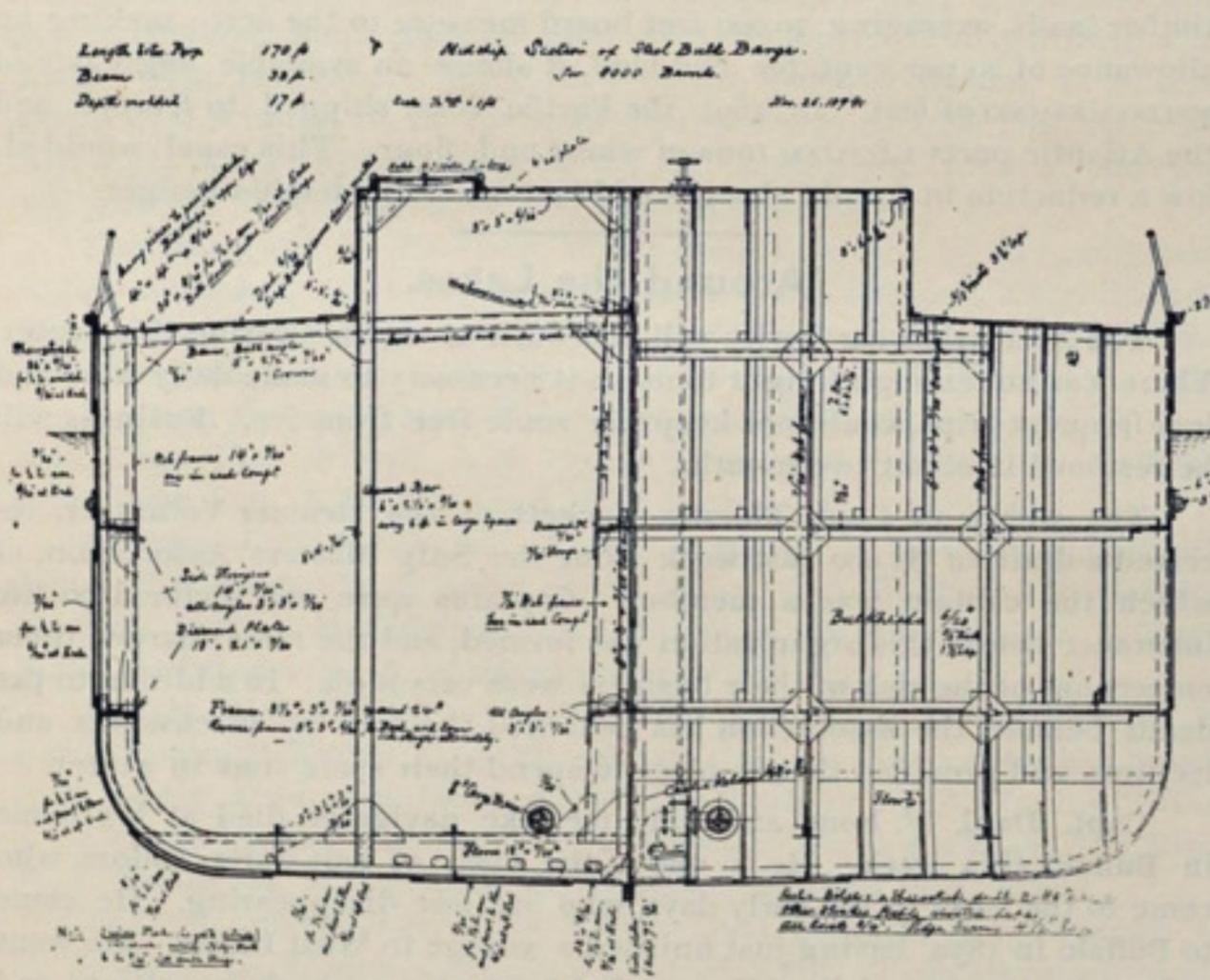
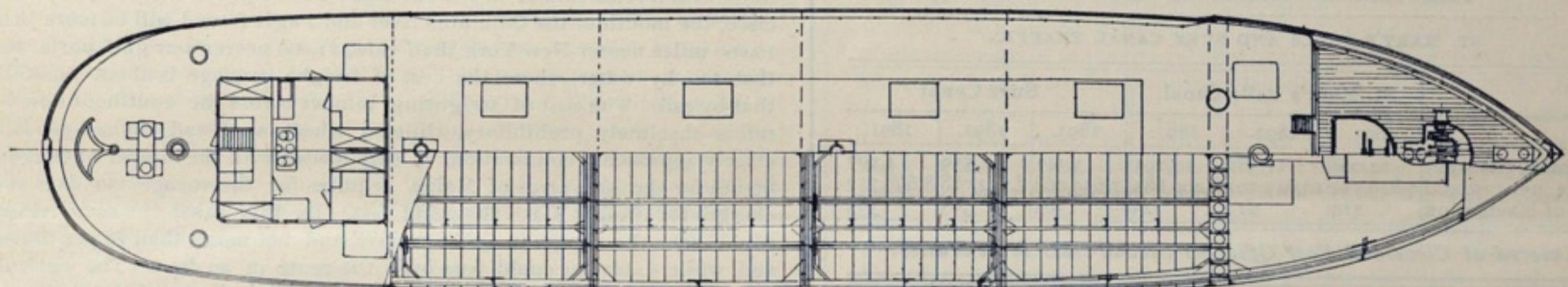
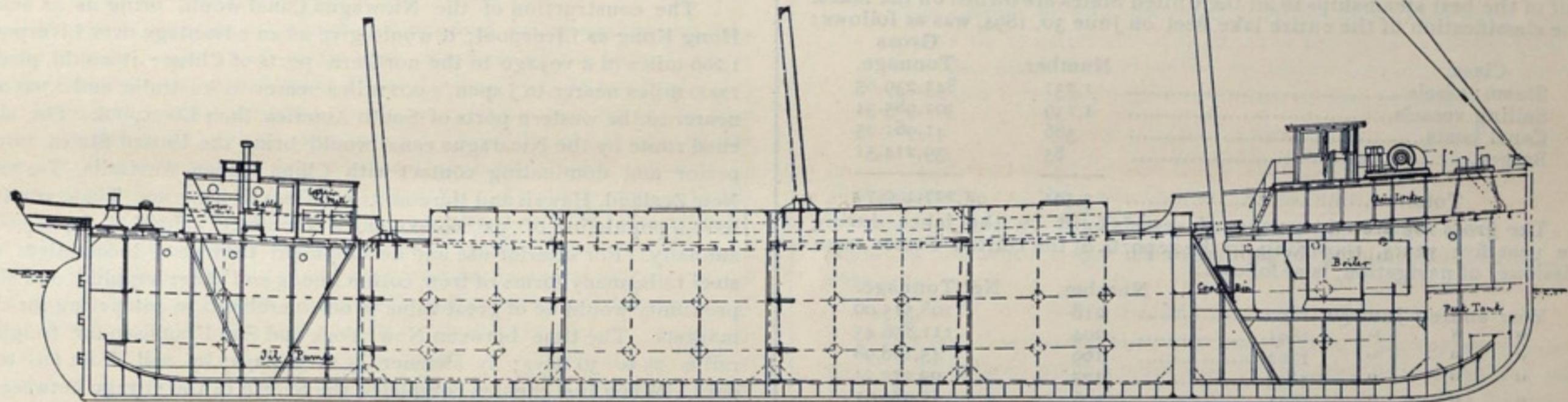
Dredge and crane chains made by J. B. Carr & Co., Troy, N. Y., are made of iron rolled specially for that purpose.

All the wood for the cabin finishing on the North Land, launched last week, was furnished by the Martin-Barriss Co., Cleveland.

The only nickel-seated pop safety valve is manufactured by the Consolidated Safety Valve Company, 111 Liberty street, New York.

The recent report of the steamer Madagascar shows that she is the most economical wooden boat on the lakes. Dean Bros., Indianapolis, Ind., furnished her pumps.

The steam pipes of the fastest cruiser in the world, the U. S. S. Minneapolis, are covered with Magnesia sectional covering, which is generally used in the United States navy and by nearly all up-to-date ship



SECTIONAL VIEW OF OIL BARGES.

structed with vertical web frames, combined with horizontal girders giving great strength and rigidity. None of these features have been patented. Mr. Haug has also designed a 160 ton torpedo boat, 23 knots speed, for Dr. Gatling's dynamite guns.

The Harvey H. Brown, which has become so widely known as the most economical freight boat on the lakes, has a first class electric light plant furnished by the F. P. Little Company, Buffalo, N. Y.

Shipbuilders should write the Continental Iron Works, Brooklyn, N. Y., for a description of a new boiler furnace they will soon put on the market.

builders. Write the Keasbey & Mattison Co., Ambler, Pa., for results of tests as compared with other covering.

Nearly 2,000 launches built and engined by the Gas Engine & Power Co., Morris Heights, on the Harlem, New York City, are in use. No engineer is required and they are always ready.

For the bearings of the engines in the new steamers that are reported building in this issue, some kind of metal will be used. Write the Magnolia Metal Co., New York, and learn why you should use Magnolia metal.

Nearly all the steel steamers built recently by F. W. Wheeler & Co. and the Detroit Dry Dock Company have open hearth steel plates manufactured by the Carbon Steel Co., represented by the Condit-Fuller Co., Cleveland.

A good feed-water heater has been patented by Robert Leavmonth, 200 Bouck avenue, Buffalo. It is in use on twenty-five lake steamers, and the president of the Lake Erie Boiler Works, Buffalo, N. Y., says it is the best heater and purifier he ever saw.

Attention is called to a new advertisement on page 4 of this issue, that of the Cleveland City Forge and Iron Co. In addition to their lake trade, they have furnished beam straps for the Fall River line boats and a large amount of forgings for naval vessels.

DeGrauw, Aymar & Co., 34 South street, New York, N. Y., advertise cordage and oakum, but there is nothing in the way of vessel supplies they do not handle. They are agents for Tyzack's stockless anchor, which is fast superseding anchors of old styles on the lakes.

Abram Smith & Son, Algonac, Mich., have a new hull for a steamer for sale. It is 200 feet keel, 36 feet beam, 12½ feet deep, built of No. 1 white oak, steel-arched and diagonally strapped. She will class A1® and have capacity for 1,100,000 feet on 13 feet draft, without machinery. If not sold she will be used as a tow barge one season, being fitted with three sticks with gaffs and light sail, so she could be handled if cast loose. This firm has quite a reputation for lumber barges, the W. K. Moore, built by them, carrying 831,000 feet lumber on 10½ feet water. The Comstock, Abram Smith and Interlaken are of their build. Their new 1,000 foot slip and easy access to timber give them unexcelled advantages for economical building. They have a record of 30 years building operation.



DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

Published every Thursday at No. 516 Perry-Payne building, Cleveland, O.

SUBSCRIPTION—\$2.00 per year in advance. Single copies 10 cents each. Convenient binders sent, post paid, 75 cents. Advertising rates on application.

The books of the United States treasury department contain the names of 3,341 vessels, of 1,227,400.72 gross tons register in the lake trade. The number of steam vessels of 1,000 gross tons and over that amount on the lakes on June 30, 1894, was 359 and their aggregate gross tonnage 634,467.84; the number of vessels of this class owned in all other parts of the country on the same date was 316 and their tonnage 642,642.50, so that half of the best steamships in all the United States are owned on the lakes. The classification of the entire lake fleet on June 30, 1894, was as follows:

Class.	Number.	Gross
Steam vessels.....	1,731	843,239.65
Sailing vessels.....	1,139	302,985.31
Canal boats.....	386	41,961.25
Barges.....	85	39,214.51
Total.....	3,341	1,227,400.72

The gross registered tonnage of vessels built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

Year ending June 30,	Number.	Net Tonnage.
1890.....	218	108,515.00
" " 1891.....	204	111,856.45
" " 1892.....	169	45,168.98
" " 1893.....	175	99,271.24
" " 1894.....	106	41,984.61
Total.....	872	406,976.28

ST. MARY'S FALLS AND SUEZ CANAL TRAFFIC.

	St. Mary's Falls Canal.			Suez Canal		
	1893.	1892.	1891.	1893.	1892.	1891.
No. vessel passages	12,008	12,580	10,191	3,341	3,559	4,207
Ton'ge, net regist'd	9,849,754	10,647,203	8,400,685	7,659,068	7,712,028	8,698,777
Days of Navigation	219	223	225	365	365	365

Entered at Cleveland Post Office as Second-class Mail Matter.

THAT SHIP owners and ship builders are alive to the necessity of using the best of materials in hull construction is very evident, and with few exceptions all the more recent contracts for new vessels have specified open hearth steel for the plates, if not for other parts. Owners generally want the best material and they are willing to pay for it, several instances which have come to our notice very recently showing this most conclusively. It is certainly to the interest of ship builders to join in this effort to secure the best possible construction consistent with a reasonable cost. That open hearth steel is the best grade of steel that is made for this purpose is beyond doubt, as this process admits of more careful manipulation than the bessemer, and a more thorough control of its product, thus securing more uniform results, this being based on a comparison of the acid open-hearth and bessemer processes.

The acid open-hearth process has until the past few years been the only process for the manufacture of open-hearth steel in use in this country and it has ruled in the output of the best boiler steel and other high grade soft steel. This process uses only the best grades of raw material—pig iron low in phosphorus, sulphur and other elements which are most likely to be injurious. The high reputation of open-hearth as compared with other grades of steel has been obtained from the uniformly high results produced by the acid process. Owing to the increased demand for open hearth steel for ship and other purposes where quality is required, an effort to produce open-hearth steel at a reduced cost has been made by a number of manufacturers with the result that they are now making by the basic open-hearth process, steel which assumes to be equal to the older and more uniform acid,open-hearth. Manufacturers of basic steel do not use standard bessemer pig iron or other high grade raw materials, but assume to be able to produce from the cheaper grade of pig iron and other cheap raw materials an open-hearth steel equal to that made by the acid process. That their results can not be as uniform and reliable is reasonable, and numerous instances of peculiar defects resulting in fracture of steel, with apparently no sufficient causes, would indicate that their claim of quality equal to the acid open-hearth is not warranted by the facts and would show also that the inferior quality of raw material used in the basic process does not produce a quality of open-hearth steel equal to that produced by the acid process. Efforts to reduce the cost of steel are to be commended, but if the cost is reduced at the expense of quality, little ad-

vantage is gained in lines like ship building, and the fact that many prominent engineers who have made the subject a study prefer to use good bessemer steel rather than basic open-hearth for railroad bridges and other similar work would indicate that makers of basic open-hearth steel must improve their methods before their steel can be accepted as equal to the best.

That the use of raw materials equal to those used in the acid-open-hearth process would secure this result with proper care is not questioned but with this the lower cost would disappear. That all steel is liable to defect is unfortunately true also, but the best is that which is least liable to be defective and no other steel has as yet been produced that has proven so uniformly reliable as the acid-open-hearth, and those who require the best, will, for the present be wiser to specify this grade and not accept as the best all steel called open-hearth, regardless of the methods by which it is produced.

Advantages of the Nicaragua Canal.

The construction of the Nicaragua Canal would bring us as near to Hong Kong as Liverpool; it would give us an advantage over Liverpool of 1,200 miles in a voyage to the northern ports of China; it would place us 1,900 miles nearer to Japan, 1,000 miles nearer to Australia, and 2,700 miles nearer to the western ports of South America than Liverpool. The shortened route by the Nicaragua canal would bring the United States into superior and dominating contact with China, Japan, Australia, Tasmania, New Zealand, Hawaii and the countries of South America. These countries have a population of 500,000,000 and a commerce valued at \$1,200,000,000 annually. For interior use and development they need locomotives, cars, steel rails, many forms of iron, cotton goods and other supplies, and closer proximity would be of great value to our merchants in competing for these markets. The time between New York and San Francisco for freight by rail is 25 to 30 days; by steamer, 45 to 50 days; by sail, from 110 to 120 days. When the canal is completed the length of the voyage between the same points by steam will be reduced to 18 or 20 days; by sail, to 30 or 40 days, with a reduction of about one-third on freight charges. San Francisco, the mouth of the Columbia river and Puget Sound will be more than 10,000 miles nearer New York than now, 11,000 nearer our gulf ports, and that, too, by water, where the cost of freight carriage is about one-fifth that by rail. The cost of freighting lumber across the continent now by rail is absolutely prohibitory, while on wheat, wool and canned goods it closely approaches confiscation. A ship loaded with the lumber of Oregon, bound for the shipyards of Maine, requires for the voyage 130 days and charges for freight \$12 a thousand feet. By this canal the same vessel could make the voyage in 40 or 50 days, and net more than \$8 per thousand, and, while a steamer could pass over the route in 20 days. The agricultural department publishes a carefully prepared estimate of the timber in the Pacific northwest. It appears by this that there are 25,000,000 acres of timber lands, averaging 20,000 feet board measure to the acre; making an allowance of 20 per cent. for bad land, it shows an available aggregate of 400,000,000,000 of feet. In 1891 the Pacific coast shipped to Europe and the Atlantic ports 1,800,000 tons of wheat and flour. This canal would allow a reduction in freight charges of \$2 a ton.—Philadelphia Ledger.

Around the Lakes.

The Ann Arbor car ferries will discontinue service during the winter. There was not enough freight to make it necessary to make daily trips and less frequent trips would not keep the route free from ice. Business will be resumed in about two months.

The widow of Capt. Thomas Hackett, of the steamer Volunteer, received a draft of \$1,000 last week from the Ship Masters' Association, of which the captain was a member. Captains were not inclined to life insurance before this organization was formed, and the rates charged them on account of the risk of their business were very high. In addition to the death benefits the association has benefited the men by discussions and lectures, and provided them a place to spend their spare time in winter.

Capt. Danl. F. Bone, an old-time lake navigator, died at his home in Buffalo this week. He is one of the class of salt water sailors, who came to the lakes in the early days, who are fast disappearing. He came to Buffalo in 1859, having just finished a voyage to West Indies. He went before the mast on a lake schooner, but soon rose to higher positions and was employed on some of the old-time fast passenger boats between Buffalo, Cleveland and Detroit. He was born in St. John, New Brunswick.

There is a stray dollar in the office of the MARINE REVIEW. Last spring it was left here by Capt. Frank Hackett for the purpose of paying Capt. Duncanson's dues as a member of the Ship Masters' Association. It was presented to the grand financial secretary of that society, who said that Duncanson didn't owe anything. It was returned to Amherstburg last March, and was mislaid but it now comes back again to the REVIEW, and the association still says that Duncanson owes nothing. If Duncanson or some friend of his doesn't claim it pretty soon, his ownership will expire by statute of limitation and Duncanson's dollar will fall into the coffers of the best marine paper published in the United States.

LAKE CARRIERS.

LARGEST ANNUAL MEETING EVER HELD BY THE ORGANIZATION—BIG GATHERING AT DETROIT—FOUR LONG SESSIONS DEVOTED TO DISCUSSIONS OF SUBJECTS TENDING TO ADVANCE VESSEL INTERESTS—STRONG AGREEMENTS DRAWN UP WITH A VIEW TO OVERCOMING ABUSES IN THE FUELING BUSINESS.

Specially Reported for the Marine Review.

DETROIT, MICH., Jan. 9.—About one hundred representatives of lake vessel interests nearly all of whom were members of the Lake Carriers' Association, were assembled in the Hotel Cadillac here Tuesday morning when President James Corrigan, vessel owner and a member of the iron ore shipping firm of Corrigan, McKinney & Co. of Cleveland, opened the third annual meeting of the organization that is now looked upon as the only representative shipping body of the lakes. Members from all parts of the lakes were in attendance. It is a peculiarity of the lake business that although extending over thousands of miles of territory, the men who are engaged in the freight carrying trade become very well acquainted with each other, no matter how widely departments of the trade may differ. These annual meetings, which are well attended, have also resulted in an increasing acquaintance, and matters of business discussed in all parts of Detroit's big hotel before the opening of the convention were as important as the annual meeting itself.

When President Corrigan called for the opening of the first session, the executive officers were all present. It was evident that the business of the organization was in such shape that little time would be spent on any of the subjects coming before the meeting, excepting new matters that required discussion and extended consideration. The election of Mr. William Livingstone, Jr., to the presidency for the ensuing year was a foregone conclusion, as was also the re-election of other officers, whose time of office is greater than a single term, which is not the case with the presidency. A list of members and others interested in lake business who were present, follows:

FULL LIST OF ATTENDANCE.

Cleveland—Capt. Thomas Wilson, James Corrigan, M. A. Bradley, Capt. Geo. P. McKay, Wm. Mack, C. F. Palmer, John Corrigan, H. J. Webb, Harvey D. Goulder, Capt. John W. Moore, J. C. Gilchrist, Philip Minch, C. R. Jones, W. A. Hawgood, Capt. C. E. Benham, Caleb E. Gowen, H. A. Hawgood, O. C. Pinney, E. S. Ludlow, Gen. Carlton, Charles Gilchrist, Geo. Elsey, Jr., Capt. Alfred Mitchell, E. M. Richardson of the Sherwin-Williams Co., W. L. Sherwood and David Barnheisel.

Detroit—Capt. E. M. Peck, Wm. Livingstone, Jr., W. A. Livingstone, Byron Whitaker, Capt. Eber Ward, Capt. W. H. Campau, Capt. Richard Cuson, F. A. Kirby, Capt. James Millen, J. C. Westcott, Capt. David Wilson, Timothy Hurley, Capt. M. W. Humphry, Capt. W. S. Whipple, Capt. Alex Ruelle, Cash P. Taylor, L. C. Waldo, Herman Ralph, Capt. Charles H. Westcott, Capt. Chas. Wilson, A. A. Parker, Stanley B. Smith, Capt. B. Wilds, John Shaw, Esq., J. M. Jones and E. T. Peck.

Chicago—C. A. Macdonald, Hugh MacMillan, E. J. Henry, J. G. Keith, James H. Calbick, D. T. Helm, Brice Miller, J. S. Dunham, Miles Barry, Homer J. Carr, J. H. Channon, G. J. Harris, C. W. Elphicke, A. L. Fitch, James W. Prindeville, A. W. Goodrich and G. C. Blair.

Buffalo—J. J. H. Brown, C. H. Keep, John Rice, P. P. Miller, M. M. Drake, James McKenzie, J. C. Fitzpatrick, Capt. H. Richardson, Ed. Smith, H. A. Noble, Capt. Geo. McLeod, Edward Hitchcock and Charles Clifton.

Duluth—Angus McDougall, H. B. Earhart, Geo. D. Kirkham, J. T. Rose, G. A. Tomlinson, B. B. Inman, Mr. Chessborough and W. S. Brand.

Bay City and West Bay City, Mich.—Thos. Cranage, S. P. Cranage, O. W. Blodgett, B. Boutell, Capt. Fred Boutelle, Capt. James Davidson, A. C. Keating and James E. Davidson.

St. Clair, Mich.—C. McElroy, Capt. W. C. Brown, Capt. Richard O'Connor, E. C. Recor, Capt. W. E. Rice and C. Beylschlag.

Port Huron, Mich.—A. M. Carpenter, J. J. Lynn, Geo. Lynn, Daniel E. Lynn, Thomas Currie and Thomas Dunford.

Milwaukee, Wis.—David Vance, Henry L. Leisk and J. C. Ricketson. Saginaw, Mich.—B. B. Moiles, John Edgar, Capt. John Kelley and Mr. Carkin.

Toledo, O.—Geo. G. Hadley and Chas. Sullivan.

Amherstburg, Ont.—John Mullen, Capt. Frank Hackett and Capt. Andrew Hackett.

Alpena, Mich.—F. W. Gilchrist and W. A. Rust who is associated with Mr. Gilchrist in the lumber business.

Marine City, Mich.—Charles Norton.

Erie, Pa.—James McBrier.

Ashland, Wis.—Capt. Alex R. Sinclair.

The reading of minutes of the last annual meeting which were briefly summarized by Secretary Keep, occupied only a few minutes, and then the report of the board of managers, which is the most important matter coming before the vessel owners at these gatherings was read. This document, which is prepared by the secretary each year, treats of the work of the association for the year closing with the annual meeting, and outlines suggestions from the board of managers for future operation. In the present instance it is a most exhaustive summary of the affairs of the organization, highly creditable to the efficient services of the secretary. The report in full follows:

ANNUAL REPORT OF THE BOARD OF MANAGERS.

AN EXTENDED REPORT OF THE TONNAGE AND FINANCES OF THE ASSOCIATION—WORK OF THE SHIPPING OFFICER AND RESULTS OF THE EFFORTS OF COMMITTEES—LEGISLATIVE MATTERS—IMMIGRATION AND RAFTING BILLS—POSITIONS OF BOARD OF MANAGERS ON PROPOSED SHIPPING OUTLET FROM THE LAKES TO THE SEABOARD.

OFFICE OF THE LAKE CARRIERS' ASSOCIATION,
BUFFALO, N. Y., Jan. 8, 1895.

To the Members of the Lake Carriers' Association:

The board of managers of the association submits herewith its annual report of the proceedings and operations of the association during the past year.

TONNAGE OF THE ASSOCIATION.

It is now three years since the Lake Carrier's Association was reorganized and placed upon a basis where it practically included the whole business tonnage of the lakes. During the first of this year the association tonnage was 580,000 tons; last year it exceeded 600,000 tons; for the year just closing the association tonnage is 590,136 tons. This is slightly less than last year's tonnage, but more than the tonnage of 1892. The slight decrease in tonnage is probably much less than would naturally be expected from the hard conditions which have prevailed in the lake carrying business during the past two years. Even the slight decrease reported is due not to the failure of carriers to join the association, but more to the actual destruction of some of the vessels enrolled during the preceding year and the withdrawal of one or two fleets of moderate size engaged in a special business on a special route, and not participating in the general carrying trade. Such vessels not being in position to use the shipping offices of the association or the private lights which it maintains in the rivers and not sharing to the same extent as others in the benefits derived from the legislation promoted by the association, it is not perhaps surprising that during a season when it was hard to make receipts equal expenses that they should have withdrawn temporarily from the association. It is a well known fact, also, that very few vessels were built last winter, so that there is very little new tonnage in the association this year to take the place of vessels lost or out of commission, and such new tonnage as was built last winter was not hurried into commission, and generally did not begin business until the middle of the season, so that it has not appeared upon our rolls this year. On the whole, therefore, the fact that nearly 600,000 tons have continued to contribute their money and support to this organization is gratifying to the board of managers.

FINANCES OF THE ASSOCIATION.

At the Detroit meeting last year the annual dues of the association were reduced 25 per cent., namely, from 4 cents per net registered ton to 3 cents. This reduction, coupled with the possibility that there might be a material decrease in the tonnage, made the incoming board of managers and the new president very fearful that the work of the association could not be kept up as it should be with the resources to be provided. At the annual meeting a year ago the treasurer reported quite a number of unpaid bills, and before the season of 1894 opened some unforeseen expenses were incurred which required the treasurer of the association to borrow \$1,500 at a Cleveland bank upon a note endorsed by several of the Cleveland managers. The association, therefore, began the year 1894 with a considerable deficit and with a largely reduced income. To meet the situation, the most rigid economies were put in force by the new president. The salaries of officers of the association were materially cut down, the compensation paid to shipping masters and light-keepers was reduced, and the miscellaneous expenses of the association were kept at the smallest possible figure. Even with this reduction of expense the season would have ended with a large deficit had not the year 1894 been singularly free from unforeseen incidents. In previous years such occurrences as the assault on the crew of the *Mabel Wilson* at Buffalo, the assault on shipping master *Felt* at Chicago, the disturbances at Ashland, the shipping of men from the seaboard to the lakes, had made heavy drafts on the treasury of the association. During the present year there have been no items corresponding to these, and this good fortune has enabled the

treasurer to make a most gratifying statement. By the 15th of January all the obligations of the association for the current year will have been paid and there will be a small sum in the treasurer's hands with which to commence the new year. This is the first year in the history of the association that some deficit, large or small, has not been carried over, and in view of the decreased receipts for the year just closed the board of managers congratulates the members of the association upon its financial condition.

OPERATIONS OF THE SHIPPING OFFICES.

Shipping offices of the association have been maintained during the past year as heretofore at Cleveland, Chicago, South Chicago, Buffalo, Ashtabula and Toledo. The very general use which is made of these offices is shown in the following condensed report taken from the annual report of Chief Shipping Master Rumsey for the season of 1894:

Number of men shipped by shipping masters:

Put on Board at Cleveland.....	2897
Sent from Cleveland to other points.....	409
Put on board at Chicago	2833
Sent from Chicago to other points	67
Put on board at South Chicago.....	1089
Put on board at Buffalo.....	1300
Put on board at Ashtabula.....	1109
Put on board at Toledo.....	352

Total.....10056

The service given by the shipping masters has been satisfactory and no complaints from members have been received.

COMMITTEE WORK DURING THE PAST YEAR.

At the last annual meeting of the association a number of special committees were appointed to secure, if possible, some reduction which would enure to the benefit of vessel owners in the cost of loading and unloading cargoes. It was foreseen that the year 1894 would necessarily be a year of low freights; that vessels would do business on the smallest possible margin, and that every slight reduction in expenses would be appreciated to a greater extent than ever before. Committees were appointed to use their best efforts to secure reductions in the cost of trimming and unloading ore cargoes. These committees went industriously to work and conferred with the railroad, ore and dock companies at the various ports of loading and unloading. After numerous conferences, reductions in the charges of unloading ore from 16 cents to 13½ cents per ton, and in the charges for trimming ore from 4 cents to about 2½ per ton, were made by the companies employed to load and unload cargoes. It would perhaps not be fair to give to the lake Carriers' Association all the credit for these reductions, since the reductions were made by the companies performing the service, and the companies could not have been compelled to make the reductions had they not chosen to do so. It is, however, fair to say that the conferences between the committees of the association and the loading and unloading companies contributed materially towards the satisfactory result obtained. Altogether, the vessels secured a reduction of about 4 cents per ton on seven million tons of ore. It will perhaps be a surprise to vessel owners who have not figured the matter to find that this has effected a saving to vessels during the season just closed of \$280,000.

A committee was also appointed at the last annual meeting to confer with the Elevator Association at Buffalo with a view to securing reduction in the shoveling charges on grain cargoes at that port. After a protracted negotiation which was very skillfully conducted by the association's committee, a reduction of shoveling charges amounting to 25 cents per thousand bushels was obtained. A little over 100,000,000 bushels of grain was unloaded at Buffalo during the season of 1894, and the shoveling charges thereon were \$25,000 less than they would have been had the rate of 1893 remained in force. The committee appointed to secure a reduction in the price of unloading lumber at Cleveland secured a reduction from 28 to 25 cents per thousand straight, (all other classes in same proportion). They also secured a change in the old rule by which the vessel paid 5 cents per thousand for every foot depth of hold over 12 feet, upon the whole cargo. In place of this charge, a uniform charge of \$5.00 per vessel exceeding 12 feet depth of hold was made. This reduction in cost of unloading lumber at Cleveland was also extended to several other lumber ports. Members will, therefore, see that the committees secured excellent results, and while the general tendency of compensation for services rendered has been downward in all branches of business, so that some reduction might have been looked for during the present season without action by the association, and your board of managers has no disposition to claim credit for the association to which it is not entitled, still a saving of several hundred thousand dollars has been effected to lake carriers, and in securing this saving, this association has done its full share and served its members well.

LEGISLATIVE MATTERS.

In legislative matters, the work of the association during the past year has not been so extensive as heretofore. A large number of the

legislative projects to which this association was strongly committed have become accomplished facts. The important results aimed at have been secured in these cases, and this year no new projects of equal importance have come forward to take their places. For the past two years also the condition of the national treasury has been such as to make it extremely difficult to secure the support of congress in matters requiring the expenditure of money. With a decreased revenue, and a large annual deficit, the tendency of the committee on appropriations has been to exclude every possible item. The last session of congress was devoted so largely to the discussion of partisan and political questions that even the appropriation bills were hurried through during the last few days of a long session, and little opportunity was given to secure any legislation except where a matter had the united support of committees in both houses of congress. Nevertheless, some important results have been secured. Congress appropriated at its last session \$156,000 for new lights and aids to navigation on the great lakes, a larger amount than has been appropriated in any recent year. Provision was made for lighting the new Hay lake channel, and appropriations were made for a light and signal at Forty-Mile point, Lake Huron, at Big Bay Point, Lake Superior, at Round island, Lake Huron, and on South Bass island, Lake Erie, together with some less important aids.

THE IMMIGRATION BILL.

Another legislative matter which kept the attention of the association during the last session of congress was the bill known as the "Lockwood immigration bill." Certain sections of this bill applied solely to the employment of seamen on the great lakes. The bill made it unlawful for vessel owners or masters to employ men on lake vessels unless the persons so employed were citizens of the United States who had had a permanent domicile here for six months prior to their employment. To enforce this provision the bill contained a further provision making the owner as well as the master of a vessel employing any person not a citizen and not domiciled six months in this country punishable by fine and imprisonment. A vigorous opposition to this bill was made by the association, and the counsel of the association appeared before the committee of congress which had this measure under consideration. The objections made to the bill were two-fold:—First: That it unjustly discriminated against vessel owners as employers; that while manufacturers and other classes of employers are permitted to choose their own employes without reference to citizenship or domicile, vessel owners were by this measure to be restricted in this respect. Our counsel argued that any man who came to the United States to work should be entitled to choose the employment for which he was best fitted, and that to forbid him to accept employment on lake vessels, and to forbid the owner of such a vessel to employ him, were a tyrannical interference with the rights of both parties for which no justifiable ground could be given. The second ground of opposition to this bill lay in its penal clauses. We regarded as an outrage legislation which would make a vessel owner guilty of crime and liable to fine and imprisonment for crime when circumstances were such as to make violation of this immigration law a matter entirely beyond the owner's control. In the first place, it is a well known fact that the owners of vessels do not employ the seamen who man them; and in the second place, neither the owner nor the master who does employ them can possibly know whether the law as to domicile of the employe has been complied with. Nothing can be easier than for evil-disposed persons to use this law to cause inconvenience and possibly to inflict arrest and punishment upon innocent persons. The purpose of the act was apparently to compel the owners and masters of vessels to employ only a certain class or set of men, and to make it difficult, if not impossible for vessel owners and masters desiring to employ others to carry on their business without inconvenience and delay. Although there was considerable pressure brought to bear on congress to pass this bill, the injustice which was so apparent in its provisions prevented its favorable consideration in committee, and it has made no headway in either branch of congress. As less than eight weeks remain of the fifty-third congress, it is not considered likely that any serious attempt will be made at this session to force this measure through. Should such an effort be made, however, members may be certain that it will meet with vigorous opposition at every point.

THE RAFT BILL.

The disappointment of the year has been the failure of the association to secure the passage of a bill properly regulating the towing of rafts. At the last session, legislation carrying into effect the recommendations of a board of United States engineers, appointed to consider this subject, was introduced in the house in the river and harbor bill. This bill passed the house with this restrictive legislation attached and it was hoped that it would pass the senate also. In the senate committee, however, the interests opposed to the regulations of raft towing succeeded in having these provisions radically amended and practically deprived of all that was good in them. When the river and harbor bill emerged from the senate committee on commerce the raft towing provisions bore no resemblance to the recommendations of the board of engineers. On the St. Mary's river, for example, where raft towing has been

most troublesome, the senate struck out the restriction as to the size of rafts, and in the Detroit river the provisions as to size were amended, and the maximum dimensions permitted to the rafts exceeded the dimensions of any raft which has ever navigated the river. The provisions in the house bill and the engineers' report as to size of rafts, were the very heart of the whole controversy. It is hard to see why the senate committee, whose members could not possibly have much personal knowledge of so technical a question, should so completely have ignored the recommendations of a disinterested board of United States engineers of the highest character and attainment, familiar by long experience with lake navigation, and requested by resolution of congress to examine thoroughly into the subject and to report their conclusions. As soon as the provisions of the senate bill became known, the president and counsel of the association took prompt steps to secure the defeat of the measure as amended. It was found to be impossible in the closing days of the session to secure the provisions in the house bill, and the entire raft legislation was therefore struck out of the river and harbor bill, leaving the matter to be dealt with afresh. At the session congress which has just met, a separate measure restricting raft towing, in precisely the same form as the provisions inserted by the house of representatives in last year's river and harbor bill, has been introduced, and an effort will be made to procure its passage through congress. We believe that nothing can prevent a success of this effort except the short time which remains before March 4, when congress must adjourn. The political complexion of congress changes on the 4th of March and there are so many important measures pushing for recognition in this short interval that there may be difficulty in getting a hearing in this matter. If this should prove to be the case, it will be taken up most vigorously in December next, when a new congress meets for a long session, and a hearing will be secured before the senate committee to which both sides of this controversy may be invited, so that the matter may be fought out in the open field. With the facts and the evidence reported to congress by the board of engineers, and with their conclusions and recommendations, we can entertain no doubt that the issue of such a hearing would be in our favor.

MISCELLANEOUS BUSINESS AT WASHINGTON DURING THE PAST YEAR.

At about the time when the immigration bill was pending at Washington, an elevated railroad at Chicago was applying to the secretary of war for permission to construct a bridge across the Chicago river between Wells and Clark streets. The proposed bridge was to have a center abutment and this location would have prevented vessels from passing over the La Salle street tunnel in the center of the river, where the available draft of water is greatest. The construction of such a bridge at the proposed point would have done material damage to the vessel interests, and the Lake Carriers' Association was vigorous and prompt in its opposition. Very strong pressure was being brought to bear upon the war department for an immediate decision favorable to the proposed bridge. The views presented by the vessel interests, however, prevailed with the secretary of war to the extent that while he approved of a bridge at the proposed point, he forbade the construction of the abutment in the river. This was a substantial victory for the vessel interests, and its importance lies, not only in its effect upon navigation in the Chicago river, but in the fact that it constitutes one more precedent in which the war department has maintained to the fullest extent the powers granted in the river and harbor act of 1890, to secure to vessels their reasonable rights in harbors. Local influences are generally strong in favor of obstructing bridges, and against such local influences, vessel men can make little headway with the local authorities. The act in 1890 gave the war department power to protect the vessel interests in such cases, and while the department was at first unwilling to take upon itself the responsibility of preserving harbors from unreasonable obstruction, the decisions of the courts were such as to force the department to take the responsibility upon its shoulders. The case of the Canal street bridge at Chicago, of the proposed bridge across the entrance to Duluth harbor, and the elevated railroad bridge at Chicago, have now thoroughly established the authority of the war department in such cases, and in each case the department has preserved the rights of vessels from unwarrantable interference.

A committee of the association, consisting of the treasurer, counsel secretary, and Capt. W. S. Mack, visited Washington in October to confer with the officers of the light-house board. The committee was most courteously received by Commander Wilde, the new secretary of the board, and the matter of new lights and signals on the great lakes was talked at length. The committee also pointed out to the naval secretary the great change which had come over the vessels comprising the lake marine during the past few years and its result in lengthening the season of navigation. A request was made that new rules and instructions be given to various district officers of the light-house establishment by which vessels could receive the protection of the buoyage and light-ships until navigation was actually closed. As a result of this conference, the light-ships and buoys on the lakes were not only kept in service much longer than usual this fall, but vessel owners received assurance, through public notice, in advance, that a new practice in this regard would

be followed. While the December just closed was an exceptional one, the experience at the close of 1894 was such as to show that still further changes in the season of navigation may be expected, and that with the large and powerful vessels now so extensively used on the lakes still later navigation may become the rule rather than the exception. I think we may feel sure that the light-house establishment will give every assistance in their power to vessels remaining in commission during December, and that they will change their instructions from time to time so as to make them conform with the prevailing practice of underwriters and vessel owners.

NEW BUSINESS COMING BEFORE THE ASSOCIATION.

Among the new matters which come before the association this winter and merit the attention of the annual meeting, perhaps the first in importance is the effect of the Chicago drainage canal upon the level of water in the lakes and their connecting rivers. Much has been written in the public press during the past few months upon this subject. Well known engineers have given their methods of computation to the public and predicted over their signatures that the operation of the Chicago canal would lower the levels of Lake Michigan and Lake Huron by about 8 inches, and produce corresponding effects in Lake Erie and Lake Ontario. Such a result as this decreasing the available draft of water in many important harbors by 8 inches and nullifying to this extent the effect of the channel improvements in the Detroit and St. Clair rivers would be a very serious blow to the shipping interests. Already owners are building expensive vessels especially designed for service after the completion of the work at the "Soo" and at the various points covered by the 20-foot channel project. The effect of this lowering of the lake levels would also be felt by the smaller vessels as well as the larger; in fact, it might operate especially to the disadvantage of smaller craft. At the important ports where the largest boats transact their business, government and municipal dredging might compensate for the lowering of the water levels, but in the lumber shipping ports and smaller harbors where the smaller craft transact much of their business and where the available draft of water is now barely sufficient, a lowering of the lake levels would necessitate harbor dredging by the government, which it might take many years to provide for and execute. On the other hand it has been asserted by various engineers that the operation of the drainage canal at Chicago would not produce any such lowering of the water. The very great interests involved make it highly important that there should be an examination of this subject by a commission of government experts, to the end that the facts may be authoritatively determined and intelligent action taken to reduce the damage to a minimum. It should not be lost sight of that this subject is international in its bearings, and that the United States government cannot avoid its fair responsibility for permitting such a diversion of the waters of the great lakes from their natural outlets, as will diminish the draft of water in Canadian harbors and in Canadian government canals; nor should it be forgotten that the Chicago sanitary district, which is building the drainage canal, is building it solely under the authority of the state of Illinois, and that the act of the Illinois legislature, giving such authority, expressly makes the district liable for all damage to real estate within or without such sanitary district which may be overflowed or otherwise damaged by the construction and use of the drainage canal.

GOVERNMENT DOCKAGE AT THE "SOO."

A petition, extensively signed by the masters of lake vessels, has been presented to the association and will be laid before the annual meeting asking that the government purchase the dock owned by the Union Dock and Coal Company at the "Soo" for the purpose of improving the eastern approach to the St. Mary's Falls canal. It is asserted in the petition that all vessels going through the lock from the east have to tie up to the government pier east of the private dock referred to and then pull around such boats as are transacting business at this private dock before entering the lock. If the wind is heavy from the east this process is attended with danger, as well as expense for tug boats, and it is claimed that much time, risk and expense could be avoided if the government owned the private dock referred to. This is not a new proposition, but the increase of the business of the canal, accompanied as it has been during the past season by increased delay at the lock caused by long lines of vessels awaiting their turn to lock through, has given the matter greater prominence than ever before. If the dock in question is to be purchased by the government, the appropriation of the money should be coupled with an express condition that the property so purchased should be used solely as an approach to the canal, and not for the transaction of local business. Other facts should also be taken into consideration: The lighting of the Hay lake channel is expected to prevent boats from arriving at the lock in bunches as heretofore; it is also expected that the Canadian lock will be in operation the coming season; and that by the fall of 1896 the new lock on the American side will be ready for use. All these facts have a bearing on this question. It has also been suggested that a very satisfactory eastern approach to the two locks on the American side of the St. Mary's river would be afforded by the construction of a

dock or pier extending easterly from the little point of land between the two American locks.

SIGNAL STATIONS AT THUNDER BAY AND MIDDLE ISLAND.

The secretary of the association has been asked to obtain an expression of opinion from vessel owners as to whether the signal stations established at Thunder Bay and Middle island have met the requirements of the vessel interests, and as to whether they are of sufficient value to be maintained. If they are to be continued, considerable expense must be incurred for a renewal of the cables, and Mr. Conger, inspector in charge of the lake marine service of the weather bureau, wishes as general an expression as possible from the members of the Lake Carriers' Association as to the necessity for such expenditure. It should be remembered that the stations at Thunder Bay and Middle island are not only stations for the display of weather signals, but that they permit prompt communication with the main land by telephone in the case of vessels disabled or distressed at or near these stations.

THE INTERSTATE COMMERCE LAW.

The public press has lately stated that the Chicago rail lines were about to make application to the Inter State Commerce Commission to exempt them from the operation of the long and short haul clause of the interstate commerce law on traffic coming in competition with the lake route. If the trunk lines should be successful in such an application to the commission it would enable them to maintain high local charges for the shorter hauls on their lines, and to cut the through rate from Chicago to points east of Buffalo. This might have the effect of still further reducing lake freights. As soon as the press reports above referred to were seen the secretary notified the Interstate Commerce Commission that if such an application were made by the rail lines the lake interests desired to oppose the same and asked a hearing, in which they could make known their grounds for such opposition. The commission replied stating that it had no knowledge of such an application except from the public press, and that if such an application were made due notice would be given and an opportunity granted to be heard in opposition.

THE FREE SHIP BILL.

The secretary will lay before the members a communication from a large vessel interest on the Atlantic coast asking the Lake Carriers Association to co-operate in opposing the passage of the free ship bill now pending in the house of representatives. As this has not yet passed either houses of congress, and as less than eight weeks remains of the fifty-third congress, it is not believed there is much danger of its passage. At the same time the matter will be brought before the annual meeting for such action as it may be deemed wise to take.

NEW LIGHTS AND FOG SIGNALS

In October a committee, consisting of the counsel, treasurer and secretary of the Lake Carriers' Association and Capt. W. S. Mack, consulted with the light-house authorities at Washington to secure the support of the light-house board for ten new aids to navigation on the great lakes. The following is a list of the proposed new lights and signals:—

1. Light and fog signal on North Manitou island, Lake Michigan.
2. Range lights and fog signal at Death's Door passage, Green Bay, Lake Michigan.
3. Grassy island, south and north end ranges, Detroit river, Michigan.
4. Fog signal at Eagle Harbor, Lake Superior.
5. Light and fog signal on Middle island, Lake Huron, Michigan.
6. Fog signal, Cat Head point, Grand Traverse bay, Lake Michigan.
7. Pier light at Grand Marais harbor of refuge, Lake Superior, Michigan.
8. Light and fog signal at Crisp's point, (west of Whitefish point), Lake Superior.
9. A gas buoy near Gravelly island, Poverty passage, Green bay, Lake Michigan.
10. A gas buoy on Lansing shoal, north of Squaw island, Lake Michigan.

In response to a request from the light-house board for information showing the necessity of each of the proposed aids to navigation, the secretary of the association prepared a printed brief, taking up each light and signal in detail, and this brief has been sent to the light-house board and to a very large number of congressmen. Letters have also been written asking congressmen to support the requests of the association for appropriation sufficient to erect these aids to navigation, and a large number of replies have been received indicating that we shall have the support of a large congressional contingent. The secretary of the association will go to Washington to urge this matter further, and the board of managers hopes for good results,

WATER TRANSPORTATION EAST OF BUFFALO.

The continuing improvement in land transportation is constantly decreasing the cost of carrying freight by land from western points to the seaboard. The completion of the 20-foot channel will place the lake route beyond the reach of rail competition as far as Buffalo. Water trans-

portation east of Buffalo, however, is in a most unsatisfactory condition. The Erie canal has been deteriorating rather than improving in condition, and it has been heretofore found impossible to secure appropriations for any radical deepening of the canal channel. At the election in November an amendment to the New York state constitution was adopted permitting the state to borrow money for the improvement of the canal system under certain conditions. This amendment was passed by a greater majority than any of the other constitutional amendments, and its passage was highly important, principally for its moral effects in showing that the friends of the canal in the state of New York are numerous, and that a project for its improvement would be a popular one. At the same time, before a canal debt can actually be incurred, the question must again be voted on by the people of the state, and it is not expected that the rural parts of the state, distant from the line of the Erie canal, will discontinue their opposition to canal improvement. As the time for the completion of the 20-foot channel draws near it becomes highly important that the Lake Carriers' Association, which has a very large interest in cheap transportation east of Buffalo, to consider what its attitude is to be towards the various schemes now proposed. The association can undoubtedly have a large influence on public opinion on this matter, and through co-operation with chambers of commerce, boards of trade and commercial organizations throughout the west and northwest, it can very likely lead the way in crystallizing public sentiment upon this subject. In the near future the time will be most auspicious for decisive action on this most important matter. The United States government has committed itself very thoroughly to the contract system of dealing with large river and harbor improvements. Of this system it has entered into various large projects in different parts of the country, including the 20-foot channel project on the great lakes, the improvement of the Columbia river on the Pacific coast, very extensive work on the Mississippi and Missouri rivers, and important harbor improvements in a number of southern harbors. The 20-foot channel project will be the first of these great enterprises, scattered all over the country, to be appropriated for and completed, and when this project is out of the way, the section of the country interested in cheap transportation to the Atlantic seaboard will be entitled to secure from congress authority for another large contract improvement for developing water communication in the northeastern part of the United States. Congress will still be appropriating money in large amounts for the Mississippi, the Columbia and the southern harbor improvements, and it will be but fair that some considerable appropriation should be made at the same time for developing the lake system. It behoves the Lake Carriers' Association, therefore, to take under careful consideration the question as to the nature and extent of such new project and to combine with western and northwestern shippers upon some definite plan. At the present time there is some agitation in favor of a 20-foot waterway from Lake Erie to the sea through American territory; others are urging the use of the Canadian waterways upon the basis of some international agreement for their improvement and maintenance; and still others, believing that both of these plans are visionary, are urging that the United States assist the state of New York in a radical improvement of the Erie canal, enabling canal boats of double the present capacity to pass at increased speed from Buffalo to New York and thus supplementing the 20-foot channel west of Buffalo. When the United States government adopted the 20-foot channel project the vessel interests found themselves supported by the whole west and northwest. The same support can be obtained for a new project to be undertaken as soon as the 20-foot channel is provided for, and the Lake Carriers' Association has the best of opportunities for leading the way in determining what form the new project shall take.

Various other matters will be brought before the annual meeting for action, but the communications relating to them will speak for themselves, and it is not deemed necessary to encumber this report with any discussion of their merits.

In conclusion the board of managers again congratulate the members of the association upon the success which it has achieved during the past year, and it desires to place on record its opinion as a board that such success has been in a great measure due to the inspiring energy and faithful services of the retiring president of the association.

Respectfully submitted,

By the Board of Managers.

C. H. KEEP, Secretary.

OFFICERS FOR 1895.

NEW VICE-PRESIDENTS AND A FEW NEW MEMBERS OF THE BOARD OF MANAGERS—CHICAGO DRAINAGE CANAL AND ERIE CANAL QUESTIONS—OTHER MATTERS CONSIDERED AT THE FIRST DAYS SESSION.

Upon the conclusion of the reading of the report of the board of managers, which was adopted entire without discussion, President Corrigan, in a short address thanked his associates on the board as well as all of the officers and members of the association for the support they had given him during the year, and before he had time to call for nominations for

the presidency, Secretary Keep began the reading of the following resolution, which had been submitted by Capt. Geo. P. McKay, treasurer, of Cleveland:

WHEREAS it is the sentiment of members of the Lake Carriers' Association, assembled at their third annual meeting in Detroit, Mich., that Mr. James Corrigan of Cleveland, the retiring president, has been a most active and efficient officer at the head of our organization, and

WHEREAS the association, after a year of depression in business, learns that its treasury has met all bills of the year in addition to having paid off a standing indebtedness that has been carried over from previous years, and

WHEREAS, the efforts of the organization in legislative and other matters that pertain to the general welfare of the shipping interests of the lakes have been especially successful during the past year, therefore be it

RESOLVED that the thanks of this body are especially tendered to Mr. Corrigan for his untiring and eminently successful administration of its affairs.

The secretary called for a vote on the resolution and it was adopted by a unanimous rising vote, fully indicative of the gratitude due Mr. Corrigan for his services in behalf of the association.

ELECTION OF MR. LIVINGSTONE TO THE PRESIDENCY.

To Mr. Henry A. Hawgood of Cleveland was assigned the honor of nominating Mr. Wm. Livingstone, Jr., of Detroit for the presidency. The nomination was supported by M. M. Drake of Buffalo, in behalf of the owners of that city, by J. S. Dunham for the Chicago members, and by Geo. G. Hadley of Toledo and J. C. Ricketson of Milwaukee. All were short adresses of a pleasant kind. Capt. Dunham said that like himself Mr. Livingstone had risen from the humble place of a tugman to the exalted position of a newspaper publisher, and any man who had made such an advance in life was entitled to honor from the poor vessel owner. Mr. Livingstone's election was unanimous, and he was greeted with earnest applause upon being called to the chair.

"I would be less than human," he said, "if I did not appreciate this high honor in a way more forcible than words can express. As my memory travels over years gone by, I think of our first meeting as vessel owners in the memoreble fight against bridging the Detroit river in 1873. A few of us from different cities came together and the work that followed in congress during the whole winter and spring showed what could be done by united action, and by assertion of the rights which our interests demand. At that meeting the seed was sown which in time created the Lake Carriers' Association of today. The exhaustive report of the board of managers treats so fully of our present affairs that anything I might add would be superfluous. I desire to suggest to you, however, and without any reference to politics, that the present is the time for work in legislative matters, and I know you will give me full support in such matters. Twelve of the congressmen recently elected in Michigan are, to my knowledge, heartily with us in our work of improvements, and we know that we may expect full support from the senators of this state also. In conclusion let me say that it is the little bright spots in life that tend to happiness, and I assure you candidly that I would rather stand in this position today with associates in business than to be governor of the great commonwealth of Michigan."

NOMINATION AND ELECTION OF OTHER OFFICERS.

It is the custom in the association to appoint a nominating committee to present names of vice-presidents, members of the board of managers and the several committees to which the work of the association throughout the year is entrusted by the general body. On motion of ex-President James Corrigan this committee was accordingly appointed, consisting of Capt. E. M. Peck of Detroit, Capt. James Davidson of West Bay City, J. C. Ricketson of Milwaukee, A. L. Fitch of Chicago, P. P. Miller of Buffalo, John W. Moore of Cleveland and G. G. Hadley of Toledo. A recess of fifteen minutes was taken to give this committee time to consider nominations, and immediately upon reassembling, the name of the finance committee was, on motion of Thomas Wilson of Cleveland, changed to executive and finance committee. The finance committee, which has headquarters in Cleveland, is entrusted with the management of all affairs of the association excepting legislative matters and aids to navigation, such as lights, fog signals, etc. As this finance committee deals with such matters as wages, conduct of shipping offices and other important subjects, it was thought advisable to change the name and the change noted was made without question. Then followed the reading of Treasurer George P. McKay's report, which will be found on another page, and which shows that the association will for the first time begin a new year with no debt, and possibly with a balance of a very small amount in the treasury. The treasurer's report was approved on motion of Capt. James Davidson, and this was followed by a resolution from Capt. Wm. S. Mack of Cleveland calling for the appointment of a committee of nine to consider and report on the new law for the prevention of collisions, which emanated from the International Marine Conference, and which is to govern the navigation of vessels of this country as well as those of several other maritime nations on and after March 1, 1895. The resolution was adopted and a committee consisting of W. S. Mack, John Rice, M. M. Drake, George P. McKay, J. J. H.

Brown, James Davidson, John Keith, M. W. Humphrey and C. E. Benham, was appointed to take up the subject and report upon it before the close of the meeting.

The election of secretary, treasurer and counsel was disposed of without any discussion. All were re-elected, Mr. Keep to the secretaryship on motion of Mr. McBrier of Erie, Capt. McKay as treasurer on motion of Capt. Thomas Wilson of Cleveland, and Harvey D. Goulder as counsel on motion of Capt. C. E. Benham of Cleveland. Capt. E. M. Peck, chairman of the committee appointed to nominate vice-presidents, members of the board of managers and the several standing committees, presented a full report, and it was adopted as read. With this report the list of officers and managers of the association complete is as follows:

LIST OF OFFICERS AND MANAGERS.

President—William Livingstone, Jr., Detroit.

Vice-President—J. C. Gilchrist, Cleveland; A. A. Parker, Detroit; S. D. Caldwell, Buffalo; Wiley M. Egan, Chicago; F. N. LaSalle, Duluth; Thos. Cranage, Bay City; W. S. Brainard, Toledo; E. D. Carter, Erie; J. C. Ricketson, Milwaukee; F. J. Firth, Philadelphia.

Secretary—C. H. Keep, Buffalo.

Treasurer—George P. McKay, Cleveland.

Counsel—Harvey D. Goulder, Cleveland.

Board of Managers—S. D. Caldwell, Peter P. Miller, E. T. Evans, James Ash, W. Bullard, J. J. H. Brown, John Gordon, John Rice, M. M. Drake, W. P. Henry, Edward Smith and James McKenzie of Buffalo; Thomas Wilson, M. A. Bradley, James Corrigan, H. M. Hanna, Geo. P. McKay, H. G. Dalton, Harvey H. Brown, John W. Moore, B. L. Pennington, John Corrigan, W. J. White, Henry A. Hawgood, W. C. Richardson, J. C. Gilchrist, W. D. Rees, John Mitchell, R. R. Rhodes, Caleb E. Gowen, Wm. S. Mack, C. E. Benham and Philip G. Minch of Cleveland; James W. Millen, William Livingstone, Jr., David Carter, E. M. Peck, D. C. Whitney, H. S. Hodge and A. A. Parker, of Detroit; J. L. Higbie, Jesse Spaulding, J. S. Dunham, John Keith, Joseph Austrian, W. R. Owen, C. W. Elphicke, Wiley M. Egan, J. J. Rardon and James A. Calbick of Chicago; George G. Hadley, W. S. Brainard and L. S. Sullivan of Toledo; James Davidson, Charles A. Eddy, O. W. Blodgett, F. W. Wheeler, B. Boutell, Thomas Cranage and J. W. McGraw of Bay City; Alex McDougall, F. N. La Salle and A. B. Wolvin of Duluth; David Vance, R. P. Fitzgerald, J. C. Ricketson and Conrad Starke of Milwaukee; F. W. Gilchrist of Alpena; Alvin Neal of Port Huron; C. T. Morley of Marine City; R. E. Schuck of Sandusky; Frank J. Firth of Philadelphia; Frank Owen of Ogdensburg.

Executive and finance committee—H. M. Hanna, H. H. Brown, James Corrigan, H. A. Hawgood, Thomas Wilson, M. A. Bradley, J. C. Gilchrist, Cleveland; E. M. Peck, D. C. Whitney, Detroit; W. P. Henry, J. J. H. Brown, Buffalo; David Vance, R. P. Fitzgerald, Milwaukee; John G. Keith, J. S. Dunham, Chicago.

Committee on aids to navigation—W. C. Richardson, W. S. Mack, Geo. P. McKay, H. G. Dalton, B. L. Pennington, Thomas Wilson, John W. Moore, Cleveland; David C. Carter, Detroit; W. M. Egan, Chicago; Frank Owen, Ogdensburg; A. W. Colton, Toledo; James Davidson, Bay City; Alvin Neal, Port Huron; M. M. Drake, Buffalo; Washington Bullard, Buffalo.

Committee on legislation—S. D. Caldwell, James Ash, E. T. Evans, P. P. Miller, John Gordon, Washington Bullard, Edward Smith, Buffalo; H. M. Hanna, James Corrigan, Cleveland; William Livingstone, Jr., James Millen, Detroit; Jesse Spaulding, Chicago; C. A. Eddy, Bay City; Alex. McDougall, Duluth; F. J. Firth, Philadelphia.

On motion of M. M. Drake of Buffalo, supported by Capt. Thomas Wilson of Cleveland, the rate of annual dues for 1895 was fixed at 3 cents a ton, the same rate as last year. The motion was adopted unanimously and without discussion.

The Interior Construction and Improvement Company of Detroit, a natural gas concern, called attention to the location of its pipes running across the Detroit river from Orleans street. On motion of Capt. C. E. Benham, later in the meeting, the secretary was instructed to send a copy of the letter describing the location of the pipes to the several lodges of the Shipmasters' Association around the lakes.

PROPOSED PURCHASE OF DOCK PROPERTY AT THE SAULT.

Secretary Keep was asked by the president to report to the association the result of inquiry regarding the proposition to have the government purchase from the Union Dock and Coal Company of Sault Ste. Marie, Mich., the private dock owned by that company, for the purpose of improving the eastern approach to the St. Mary's Falls canal. This is not a new proposition, but the increase of business at the canal, coupled with the delays that occurred during the past season, has given the matter greater prominence than ever before. Mr. Keep read a letter from Gen. Poe in which that officer suggested that if the dock is purchased by the government, the appropriation for the purchase should be coupled with a condition that the property should be used solely as an approach to the canal, and not for the transaction of local business. Mr. Keep also referred to the suggestion in the report of the board of managers that a very satisfactory eastern approach to the two American locks would be afforded by the con-

struction of a dock or pier extending easterly from the little point of land between the two American locks.

Following the secretary's explanations Capt. James Davidson moved that the president and secretary be instructed to notify the proper government authorities that the association deems it necessary that the government should purchase the dock referred to and that it be kept exclusively for the use of vessels passing through the canal. The resolution was supported by J. J. H. Brown of Buffalo and was passed unanimously.

ENDORSEMENT OF SEYMOUR PLAN OF ERIE CANAL IMPROVEMENT.

In its annual report the board of directors suggested action with reference to Erie canal improvements. The matter was brought up by Mr. M. M. Drake of Buffalo introducing the following resolutions:

WHEREAS this association, comprising the entire business tonnage of the lakes and representing over 600 vessels valued at \$50,000,000, notes with satisfaction and approval the effort now being made by the commercial bodies of the state of New York to secure the improvement of the New York state canals by obtaining a depth of 9 feet in the Erie and Oswego canals and the lengthening of the locks therein, and

WHEREAS we believe that this is the most practical method of supplementing the 20-foot lake channel west of Buffalo, and will best serve to develop the lake interests and to secure cheap transportation to the seaboard for the shippers of the west and northwest, therefore be it

RESOLVED that the Lake Carriers' Association heartily endorses the Seymour plan of improvement and urges the New York state authorities to push the contemplated work to speedy completion.

RESOLVED that the secretary of this association send certified copies of this resolution to the governor of the state of New York and the chairmen of the canal committees in the New York state senate and assembly.

Mr. Drake is known as one of the leading supporters of the New York canal interests. He has taken part in the various conventions of the canal men in New York, in which appropriations for canal enlargement have been sought without avail. He made a short address in support of the resolution. No one else said anything on the subject. The big international scheme and other radical projects over which waterways conventions have spent a great deal of time of late years were not even spoken of. The resolution was passed, although there were few vessel owners at the meeting who expect that the state of New York will, without government aid, ever advance money enough to improve the canals on the scale demanded by conditions ruling in the commerce between Buffalo and the seaboard.

CHICAGO DRAINAGE CANAL.

The subject of a possible lowering of lake levels through the discharge of a great quantity of water into the drainage canal at Chicago from Lake Michigan, when the canal is completed some years hence, was brought to the attention of the association by Secretary Keep, who deals with the matter as far as it is possible to do so in the report of the board of managers. Mr. Keep's explanation of the matter was in substance what is contained in the report of the managers.

Ex-President Corrigan supported the position taken by the managers and the secretary. Capt. J. S. Dunham of Chicago did not object to applying for an investigation of the subject, but said that there need be no fear of the amount of water drawn from Lake Michigan being sufficient to create any difference in lake levels. A current of three miles an hour through the Chicago river, as proposed by the promoters of the canal would, he said, destroy commerce in that river and would never be permitted. On motion of M. M. Drake of Buffalo the president and secretary of the association were instructed to proceed with an effort to secure the appointment of the proposed commission in accordance with the recommendation of the board of managers.

BUFFALO GRAIN CHARGES—WEATHER BUREAU SERVICE.

Mr. J. J. H. Brown of Buffalo directed attention to what had been accomplished by the committee appointed a year ago to undertake measures for a reduction in unloading charges on grain delivered at Buffalo, and moved the appointment of a new committee to continue the work begun at that time. It was understood that this committee could make no immediate report, but they will be heard from before the opening of navigation this year, through the executive officers of the association. The committee as appointed consists of G. G. Hadley, M. A. Bradley, James McBrier, J. J. H. Brown and W. A. Livingstone. These gentlemen met during the progress of the convention and fixed upon plans for again taking up this subject with the elevator managers and the shovelers' union of Buffalo.

A letter from Inspector Conger of Detroit, who is in the service of the weather bureau on the lakes asked for an expression of opinion from the association as to the value of the signal stations at Thunder Bay and Middle islands, which are maintained at considerable expense, on account of the cable connections necessary for such stations. The communication also asked for an opinion on the advisability of establishing a similar station, with a main land connection, on North Manitou island, Lake Michigan. Several members of the association, including Messrs. M. M. Drake, Geo. P. McKay and W. A. Livingstone, spoke of the great value of the Thunder Bay and Middle island stations and the necessity of duplicating the ser-

vice at the Manitous. On motion of Mr. W. A. Livingstone, the secretary was instructed to convey to the weather bureau an expression of the vessel owners' appreciation of the cable stations on Lake Huron, and to ask for a station of the same kind on North Manitou island, with the suggestion that a telegraph line be erected from the station on North Manitou to the South Manitou, so as to permit of the display of signals at the latter point also. The association would have recommended the laying of a cable to South Manitou instead of North Manitou, but Mr. Conger explained that the expense would be very much greater than that required for a cable to the north island.

VEXED QUESTION OF FUEL CHARGES.

AN AGREEMENT TO PURCHASE NO COAL FROM BUFFALO COAL SHIPPERS —CARGO PRICES WITH HANDLING CHARGES ADDED TO GOVERN FUEL PURCHASES AT OHIO PORTS.

Before leaving the chair, Mr. James Corrigan announced that he proposed to bring up the question of coal shippers charging to vessels to which they furnish coal cargoes 30 to 40 cents a ton more for fuel than the price at which fuel of the same quality may be secured from the shippers when coal cargoes are not furnished or when the vessel is allowed to purchase fuel from dealers who are not in the shipping business. This is not, of course a new question. It was discussed at great length at the last meeting of the association, and a committee was appointed to confer with the coal shippers, but no report was ever received from this committee. Agreements have been entered into by the vessel owners in the past and they have been broken, but the discussion at this meeting was of an open and extended kind, almost every owner at the meeting being called upon for his views and experience in the matter. There was more earnestness than in any previous discussion of the subject, and three or four of the fuel dealers who are not extensive shippers, or not shippers at all, were admitted to the meeting and requested to state their views of the matter. Among these were Martin Mullen of the Cuddy-Mullen Coal Company of Cleveland, H. A. Noble of Frank Williams & Co. of Buffalo, and Charles Clifton of Bell, Lewis & Yates, also of Buffalo. The discussion was based on the following resolutions, which were introduced by Mr. James Corrigan of Cleveland some time after a number of members had spoken on the subject, and it was evident that the vessel owners were thoroughly stirred up over the practice of the coal men, which was referred to in plain terms as outright robbery:

WHEREAS it has become common, if not usual, for those who furnish coal cargoes, to require as a condition of the charter, that the vessel shall purchase her fuel from such parties, or as they shall direct, and

WHEREAS the said parties are in some cases not the actual shippers, but only agents for the actual shippers of cargoes, be it

RESOLVED that the experience of the members of this association generally shows that very serious evils have grown out of this practice. The price charged for fuel is much higher than the market price of the same coal, and correspondingly higher than the price at which other fueling concerns stand ready to sell the same coal for fuel; and be it

RESOLVED that the practice is a species of extortion contrary to the spirit of free institutions, and has attained the proportions of an unbearable evil, and be it

RESOLVED that this association condemns this practice in unmeasured terms as an unmitigated evil and one which is unnecessary for vessel owners to suffer under if they will take and firmly maintain a united stand against it; and while this association can not as such deal with the control and operation of vessels or direct the business conduct of their owners, it does pledge its influence in support of the efforts of vessel owners in stamping out this practice, and be it

RESOLVED that a committee of seven be appointed by the chair to formulate and report at tomorrow morning's session a course and mode of action for owners.

Mr. Mullen of Cleveland said his firm was ready to enter into a contract with the association, or any number of its members, to furnish coal to the extent of several hundred thousand tons at a price even lower than that at which the independent dealers had been selling coal during the season just past. Both of the representatives of the Buffalo firms made similar offers, and both said they would certainly be forced out of the vessel fueling business within another year if the present practice of dealing with the coal shippers is continued. Mr. Stanley B. Smith, representing the company having a big plant of chutes on the Detroit river was also present, but he did not enter into the discussion, as the business of his company is of a kind rendering a special advantage to vessels passing through the rivers and is not involved in matters at issue to the extent that other firms are concerned. Mr. Noble of Frank Williams & Co. of Buffalo admitted that in his dealings with certain hard coal shipping agents in Buffalo, who are not in the soft coal business, he furnished fuel in 1894 to vessels which were loaded by these hard coal agents and charged the agents \$2.10 a ton, while it was billed to the vessel at \$2.60. In previous years he was compelled to give these agents only 10 to 15 cents a ton on fuel furnished to vessels which they loaded. He figured that on

200,000 tons of fuel taken out of Buffalo last season the vessels had paid an excess of \$80,000 on account of the methods in vogue. Numerous instances of dealings of this kind and proof of the bad features of the abuse were brought out and in a discussion lasting two or three hours, nearly every vessel owner at the meeting was heard. Probably the most important announcement, and one that contained some encouragement for the owners, came from M. M. Drake of Buffalo, who is associated with the management of the Delaware, Lackawanna & Western Railway Company. Mr. Drake said he was authorized by the management of his company to say to the vessel owners that in the future they would not tell vessel owners to whom they furnished cargoes where to buy fuel. Mr. G. G. Hadley of Toledo, who shipped 200,000 tons of soft coal last season, but who is also interested in vessels, said he was anxious to do all in his power to break up the evil, and declared that there was a big profit in furnishing, at \$1.90 a ton, Hocking valley coal for which vessels paid \$2.25 in most instances during the past season. The discussion resulted in the appointment of the committee referred to in the resolution. The members appointed were Capt. James Millen, M. A. Bradley, Capt. James Davidson, G. G. Hadley, J. J. Rice, J. C. Gilchrist and J. C. Ricketson.

All of Wednesday morning was devoted to committee work, most interest centering, of course, in the conference of the committee sitting on the fuel question. The two fuel dealers of Buffalo and Mr. Mullen of Cleveland were called before the committee and asked what they would do in event of a certain number of vessel owners agreeing to take a large quantity of coal from them. It was evident shortly after the committee had assembled that a report would be made against purchasing any fuel whatever next season from shippers of coal in Buffalo, and when the committee reported at noon this expectation was realized, as shown by the following copy of the report:

To the Lake Carriers' Association: Your committee recommends that vessel owners prohibit themselves by agreement from purchasing or obtaining fuel from coal shippers under any circumstances at Buffalo, directly or indirectly, and to further bind this arrangement that a contract be entered into, if satisfactory terms can be had, with fuel contractors who are not shippers for the entire supply of fuel at Buffalo at proper prices and on satisfactory terms as to quality, dispatch etc.

Second—Your committee further recommends, as to other Lake Erie ports, that no vessel pay for fuel any higher price than the regular wholesale price in cargo lots with the addition of the extra cost, if any, of putting fuel on board over cost of loading cargo.

Third—That a committee be appointed to carry out these recommendations so far as possible to-day and to be continued for that purpose.

This report was signed by the full committee whose names are given above. It was explained by Messrs. Corrigan, Goulder and others, who spoke for the committee, that as Buffalo hard coal shippers are not in the fuel business, and as the greatest abuses were charged up to that port, it was deemed advisable to cut off entirely the purchase of coal through hard coal shippers. But at Ohio ports the situation was different on account of the advantage to the vessel in taking fuel at the dock where cargo is loaded, if the fuel can be secured at the cost of cargo coal with the addition of regular charge made for putting it aboard. In the discussion that followed every member of the association who controls tonnage of any account was called upon for an expression of opinion regarding the resolution. There was no objection to the stand taken as to Buffalo, but doubt was expressed as to the rule to be followed at Ohio ports being rigid enough to prevent advantage being taken of it in dealings with the soft coal shippers. As shown in the report however, the committee was to immediately go ahead with the work of securing signatures of the vessel owners to two written forms of agreement covering the conditions at Buffalo and at Ohio ports, and when this was understood the report was, on motion of Mr. Thomas Cranage, adopted in sections by rising votes. With a little more delay the committee, through Mr. Goulder, reported the following forms of agreement:

AGREEMENT RELATING TO PURCHASE OF FUEL AT BUFFALO.

This memorandum of agreement, made at Duluth the ninth day of January, 1895, witnesseth:

That the subscribers hereto, members of the Lake Carriers' Association, and others, do hereby agree to and with each other, as follows:

First—Each subscriber hereto binds himself for each and every vessel which he owns, or controls and manages, either as managing owner or otherwise.

Second—Each subscriber agrees for himself and his vessels as explained in Section I to and with all and each of the other subscribers.

Third—The port of Buffalo wherever used in this contract shall mean and be understood to include not simply Buffalo creek and the Blackwell canal, but Tonawanda, Black Rock, and to cover every place, lighter and means of furnishing fuel at and about the city of Buffalo.

Fourth—Each subscriber hereto agrees and binds himself, his vessels and their masters, that during the year 1895 he or they will not, nor shall any one for him or them, or in his or their behalf, directly or indi-

rectly, purchase any coal for fuel, and that no vessel owner or manager by him shall under any circumstances, directly or indirectly, procure or take on board or use any coal for fuel from or through, directly or indirectly, any shipper of coal at the port of Buffalo, or any agent of a shipper or party engaged in the shipment of coal from that port.

Fifth—This agreement is to become binding when signed by 300,000 net registered tons.

In witness whereof we have hereto set our hands this 9th day of January, A. D. 1895.

AGREEMENT RELATING TO PURCHASE OF FUEL AT OHIO PORTS.

This memorandum of agreement entered into at Detroit this ninth day of January, A. D. 1895, witnesseth:

That the subscribers hereto, members of the Lake Carriers' Association, and others, do hereby agree to and with each other as follows:

First—Each subscriber agrees for himself for each and every vessel which he owns or controls and manages, as managing owner or otherwise.

Second—Each subscriber agrees for himself and his vessels as explained in Section I, to and with all and each of the other subscribers.

Third—This contract shall apply to all Lake Erie ports other than Buffalo, which has been provided for in another contract.

Fourth—Each agrees that he will not nor shall any one for him, nor shall his vessel or any of them or any one for them, purchase coal for fuel at such Lake Erie ports, or obtain, receive or use coal for fuel at a price, directly or indirectly, in any manner charged or accounted for, higher per ton of 2,000 pounds than the general wholesale price of the same or equivalent coal in cargo lots, with the addition, in cases where there is an actual difference paid in expense of putting fuel on board and trimming, over the price of putting cargo on board, of such extra expense.

Fifth—This agreement is to become binding when signed by 300,000 net registered tons.

In witness whereof we have hereto set our hands this ninth day of January, A. D. 1895.

Members of the committee explained that they had made no contract with the representatives of the Buffalo coal companies present at the meeting, but with the consent of the meeting they are to continue their work and they are empowered to agree with either or both of the Buffalo companies to have all signers of the agreements purchase coal from them in Buffalo if a price sufficiently low to warrant such action is offered them. The committee is to immediately circulate the agreements throughout the lakes and continue its work with a view to a final settlement of the matter.

Signatures to the petition secured before adjournment of the meeting were: James Davidson, James Corrigan, James Millen, J. C. Ricketson, J. C. Gi'christ, G. G. Hadley, M. A. Bradley, A. A. Parker, B. Whitaker, E. M. Peck, Thomas Cranage, David Vance, James McKenzie, Henry Leisk, J. W. Candler, W. S. Mack, Vulcan Transportation Co., per E. T. Peck, Mitchell & Co., per Albert Mitchell, M. M. Drake, Timothy Hurley, James S. Dunham, C. E. Benham, C. W. Elphicke & Co., L. C. Waldo, W. A. Livingstone A. E. Stewart and H. S. Whipple.

VARIOUS LEGISLATIVE AND OTHER SUBJECTS.

PROPOSED CHANGES IN PILOT LAWS—COMMITTEES TO CONSULT UNDERWRITERS, DRY DOCK OWNERS AND OTHER INTERESTS WITH A VIEW TO SECURING BUSINESS ADVANTAGES.

Although the question of fuel charges and abuses in the coal business demanded attention during the greater part of the two sessions on Wednesday, a great number of other subjects were taken up and disposed of, or referred to the standing committees of the association. Probably the most important of these was the proposed changes in rules for preventing collision, upon which the shipmasters have been working for some time past. The captains are desirous of working in conjunction with the association, and as noted early in the report of these proceedings, this matter was brought to the attention of the owners by Capt. Wm. S. Mack, president of the Cleveland lodge, Shipmasters' Association, who submitted to the meeting a summary of the changes as proposed by the masters and as printed on the first page of this issue. The committee to which this matter was referred spent some time in considering it, and finally reported in favor of having it referred to the standing committees of the association—executive, legislative and aids to navigation—who are to meet in Cleveland on Saturday, Jan. 19. In the meantime the proposed changes will have been considered by the grand lodge of the Shipmasters' Association, which convenes in Detroit on Jan. 15. The Detroit convention of shipmasters is expected to appoint a committee to confer with the owners in Cleveland on the 19th, when it is expected that final arrangements will be made to bring the proposed changes to the attention of congress through the proper authorities in Washington. This plan of action, which made up the report of the committee, was adopted on motion of Capt. W. S. Mack. Only one member of the committee, M. M. Drake of Buffalo, was opposed to the use of passing signals in thick weather.

NO RIGHT OF WAY FOR NORTHERN LINE SHIPS.

Gen. Mngr. John Gordon of the Northern Steamship Company, who was in Detroit on Monday, but was called to New York just previous to the opening of the meeting, submitted, through Secretary Kepp, a resolution recommending that the engineer in charge of the Sault Canal be authorized to regulate the traffic at the locks so that steamers carrying passengers for hire and running on a schedule time be given preference over other steamers. The resolution was supported by Capt. Geo. P. McKay, and expressions of regard for the enterprise of the Northern Steamship Company in establishing a line of express steamers on the lakes followed the reading of it, but almost without exception the members who spoke on the subject were against opening the way to any preference for passenger boats at the canal, and on motion of A. A. Parker action in the matter was indefinitely postponed.

MISCELLANEOUS MATTERS.

Under this heading several subjects were hurriedly disposed of toward the close of the meeting. The secretary was instructed to send telegrams to chairmen of the appropriation committees of the senate and house informing them that the Lake Carriers' Association in annual meeting assembled earnestly asked their support in securing provision in the sundry civil bill for the much needed lights and signals asked for in the pointed brief heretofore sent them. The secretary was also instructed to telegraph Congressman Lockwood of Buffalo, urging him to secure, if possible, through the aid of Mr. Catchings, the early passage of the raft bill by the house, so that the association may obtain a hearing before the senate committee on commerce and if possible secure the benefits of the bill before navigation opens.

A committee to represent the association in considering with lake underwriters the classification and valuation of lake vessels was appointed by resolution, and the members named are H. A. Hawgood, J. C. Gilchrist, John Rice, A. A. Parker and Edward Smith. Another committee to meet with the association of dry dock managers, who will hold their annual meeting in Buffalo on the 17th inst., consists of J. C. Gilchrist, M. A. Bradley, M. M. Drake, C. E. Benham and Waldo Avery.

On motion of Capt. W. S. Mack the executive committee of the association was instructed to take steps to have the United States statutes so revised as to admit of an equal representation of pilots with engineers on the United States board of supervising inspectors of steam vessels.

Resolutions renewing to the United States senate, in the matter of confirmation, the protests of the association against the nomination of John H. Galwey for the position of supervising inspector of steam vessels in the eighth district (Detroit) were of a very vigorous kind. Mr. Galwey now holds this position by virtue of presidential nomination. The senate is asked to reject the nomination, and the secretary was instructed to send copies of the resolutions to the Michigan senators.

Capt. James Davidson, J. C. Gilchrist and G. G. Hadley, joined in a lengthy plea in favor of the association hiring men at two or three of the lumber shipping ports at the head of Lake Superior to correct abuses in exorbitant handling charges to which the lumber carriers are compelled to submit. It was claimed that a service of this kind would bring a large number of lumber carriers into the organization. The feeling was against undertaking such expense without a thorough inquiry into the subject, and a resolution was accordingly passed instructing the secretary to make inquiry among owners of lumber vessels as to how many of them would join the association in event of this service being secured to them. These owners are to be invited to attend a meeting in Cleveland of the executive committee, to whom the secretary's report is to be submitted, and if the committee deems it advisable authority is given them to establish this service, or to otherwise act with lumber dealers, with a view to overcoming the abuses in loading and unloading.

A communication from the Atlantic Coastwise Association requesting action in opposition to the Fithian free ship bill was referred to the legislative committee, with instructions to take such measures as they see fit in opposition to this bill, if there are any indications of its passage by the present congress.

The executive committee was also instructed to petition the light-house board for the establishment at Whitefish point, Lake Superior, of a more efficient fog signal than the one now in operation at that point.

When the state of Michigan turned over to the general government the canal at Sault Ste. Marie, a sum of money for the establishment of a dry dock at Sault Ste. Marie accompanied the transfer. The government has refused to enter into competition with private enterprise by building and maintaining such a dry dock. A bill before congress proposes to use the money for the establishment of a marine hospital at Sault Ste. Marie. Resolutions endorsing this bill were adopted on motion of J. J. H. Brown, of Buffalo.

NOTES OF THE MEETING.

Mr. Frank S. Manton of the American Ship Windlass Company, Providence, R. I., was at the convention. He was not a stranger among the vessel owners.

Shortly after the reorganization of the old Lake Carriers' Association the REVIEW suggested that the name of the finance committee should be changed to executive committee. The name "finance" was not indicative of the diversified power and duty of the committee. The change was slow in coming about but it was finally made at this meeting.

Mr. Chas. W. Wilson of St. Paul, representing the Babcock and Wilcox company, had fitted up in one of the parlors of the Cadillac an excellent exhibit pertaining to the marine water tube boiler which the Babcock and Wilcox company is pushing on the lakes. He made the acquaintance of numerous vessel owners who are becoming thoroughly interested in the subject of water tube boilers.

Although the association has for the first time selected a member from a port other than Cleveland for the presidency, the headquarters of the association will of necessity be in Cleveland. Mr. Livingstone will undoubtedly take a very active part in all of the affairs of the organization, and make many visits to Cleveland, but the regular management of shipping offices and other details will rest with the executive committee.

Detroit vessel owners have the support of the city administration in a proposition to have the Michigan state legislature exempt vessel property from all taxes excepting state taxes. Just previous to adjournment of the meeting they obtained information on the taxation question from visiting vessel owners representing other cities, and after adjournment the Michigan owners held a meeting to prepare plans for bringing the matter to the attention of their legislature.

Launch of the North Land.

The REVIEW had expected to secure in time for publication in this issue a picture showing the launch of the North Land, second of the Northern line passenger ships, which was launched with considerable ceremony and in the presence of a great assembly of people at the ship yard of the Globe Iron Works Company, Cleveland, on Saturday last. Conditions of weather have been against an early reproduction of photographs of the launch. A description of the boat is unnecessary here, as her sister ship, the North West, of which she is almost an exact duplicate, was exhaustively described and illustrated in the REVIEW of June 30, 1894. The launch on Saturday was attended by several pleasant social features. Mr. F. P. Gordon gave a dinner to the visiting newspaper representatives at the Hollenden, and the principals of the steamship company and the ship building company also indulged in festivities.

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CLEVELAND, O., January 5, 1895.

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To those engaged in lake traffic during the season of 1895 and who wish to keep posted in the daily affairs of the entire lake system we would say they can do so no better than by subscribing for the DETROIT JOURNAL. All the care that was exercised in making that department of the JOURNAL complete in 1894 will be increased in 1895. The news furnished will be fresh, complete and reliable.

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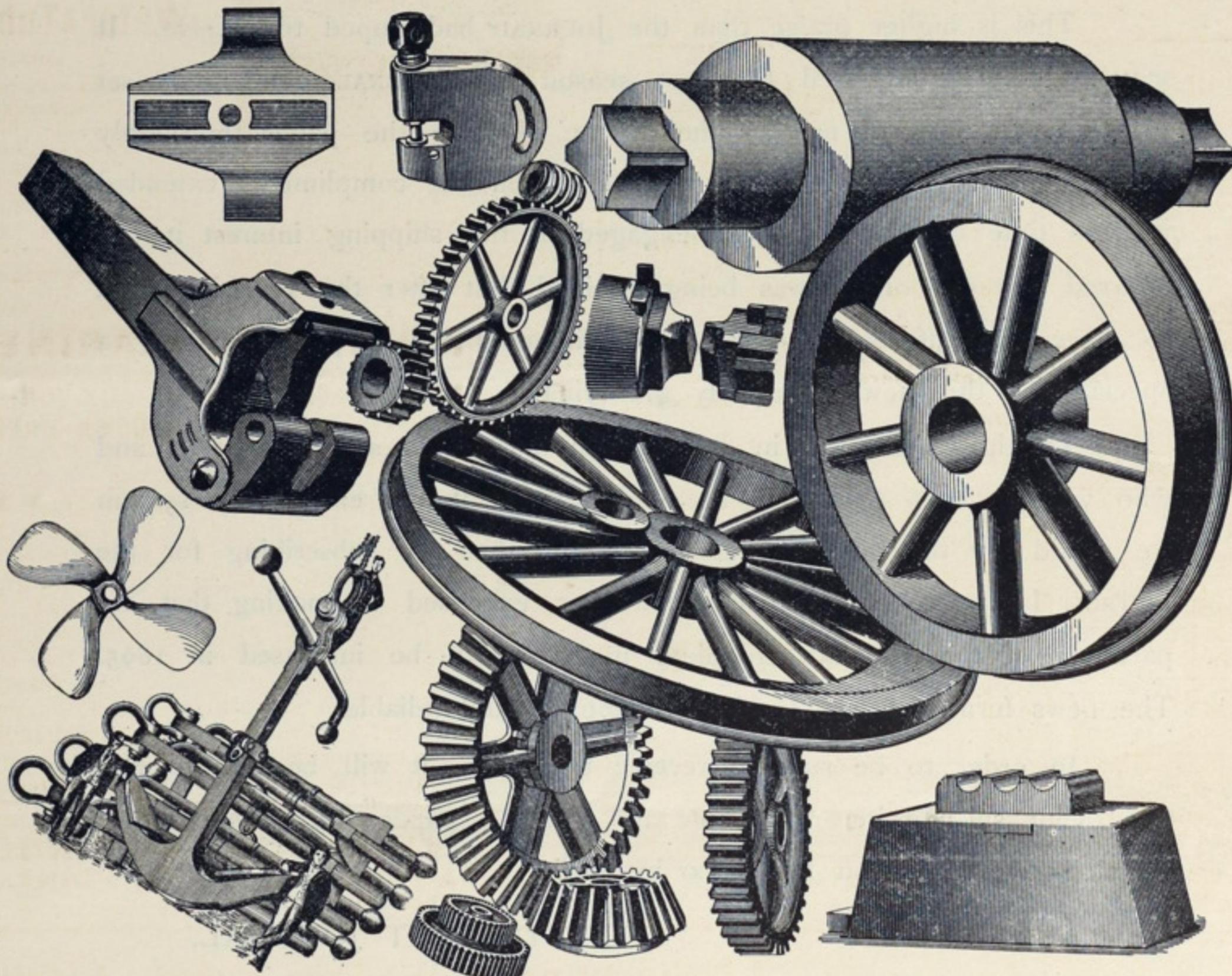
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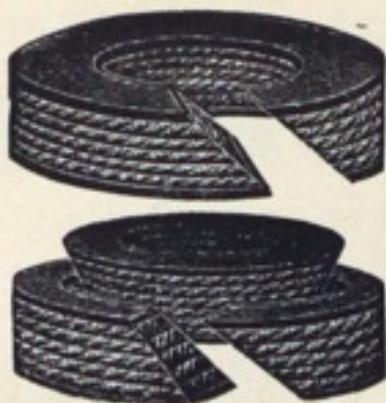
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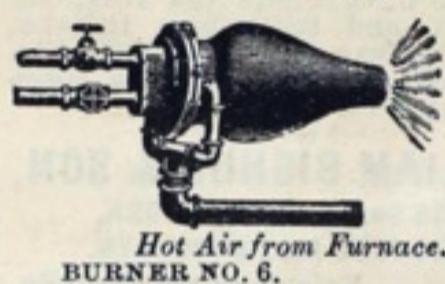
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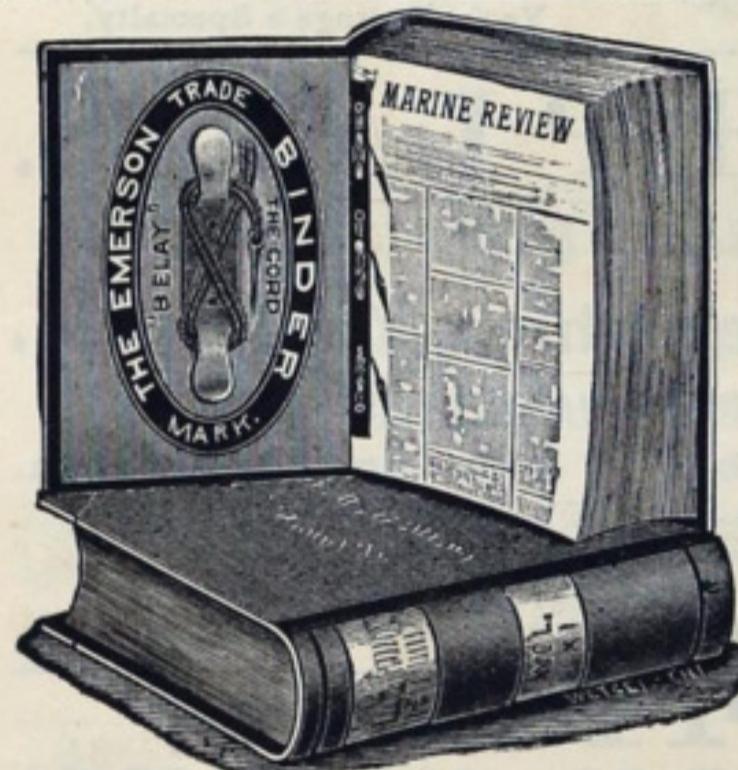
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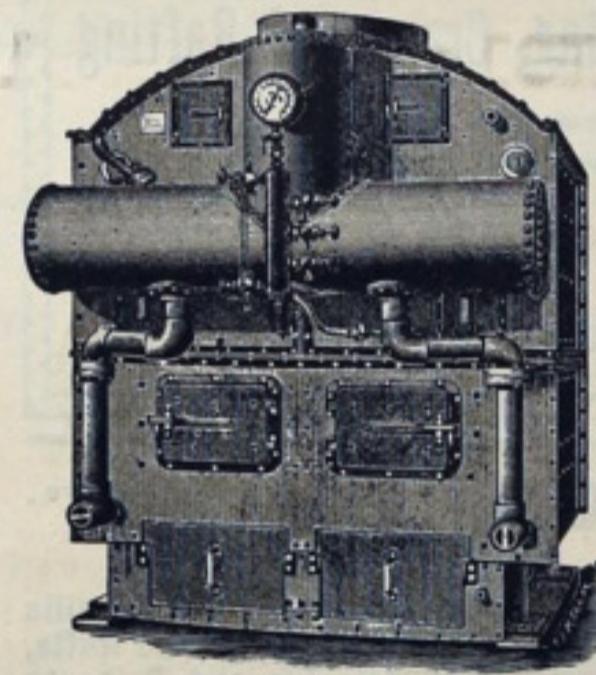
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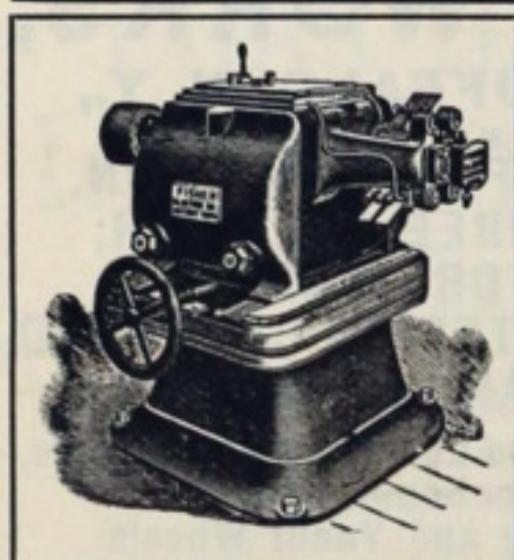
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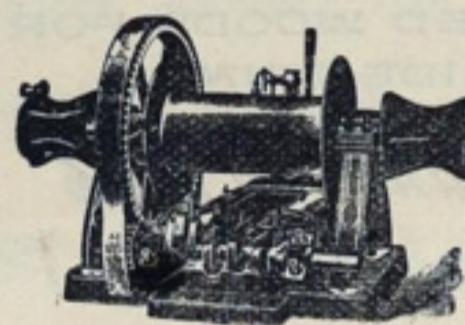
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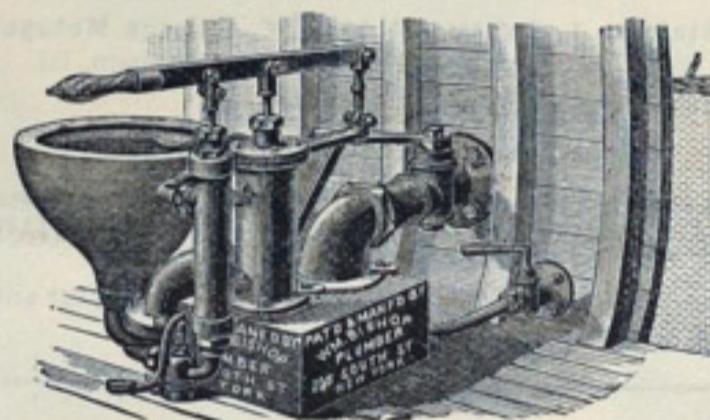
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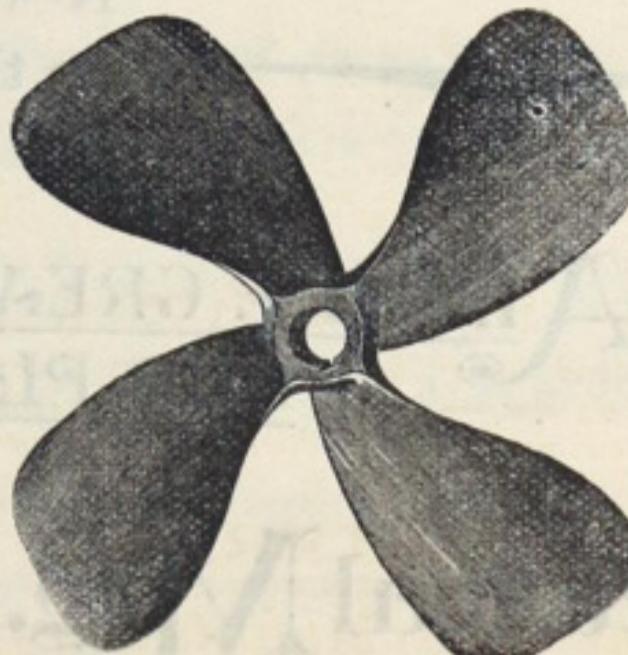
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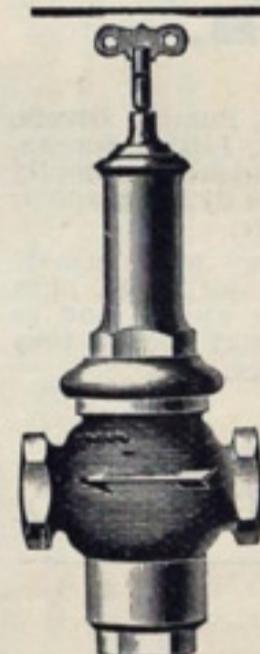


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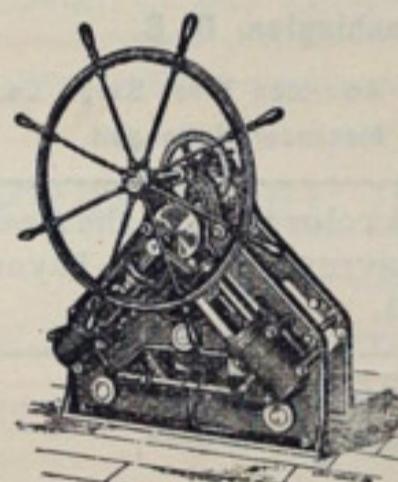
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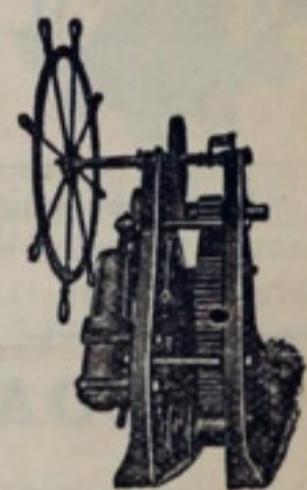
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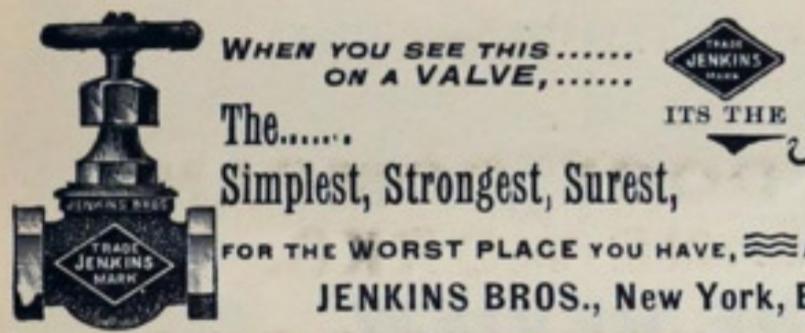
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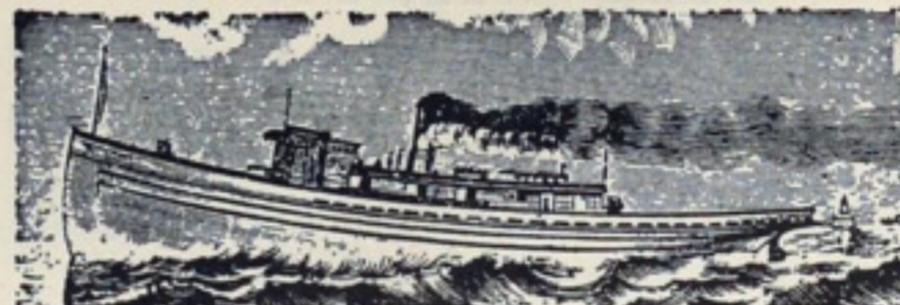
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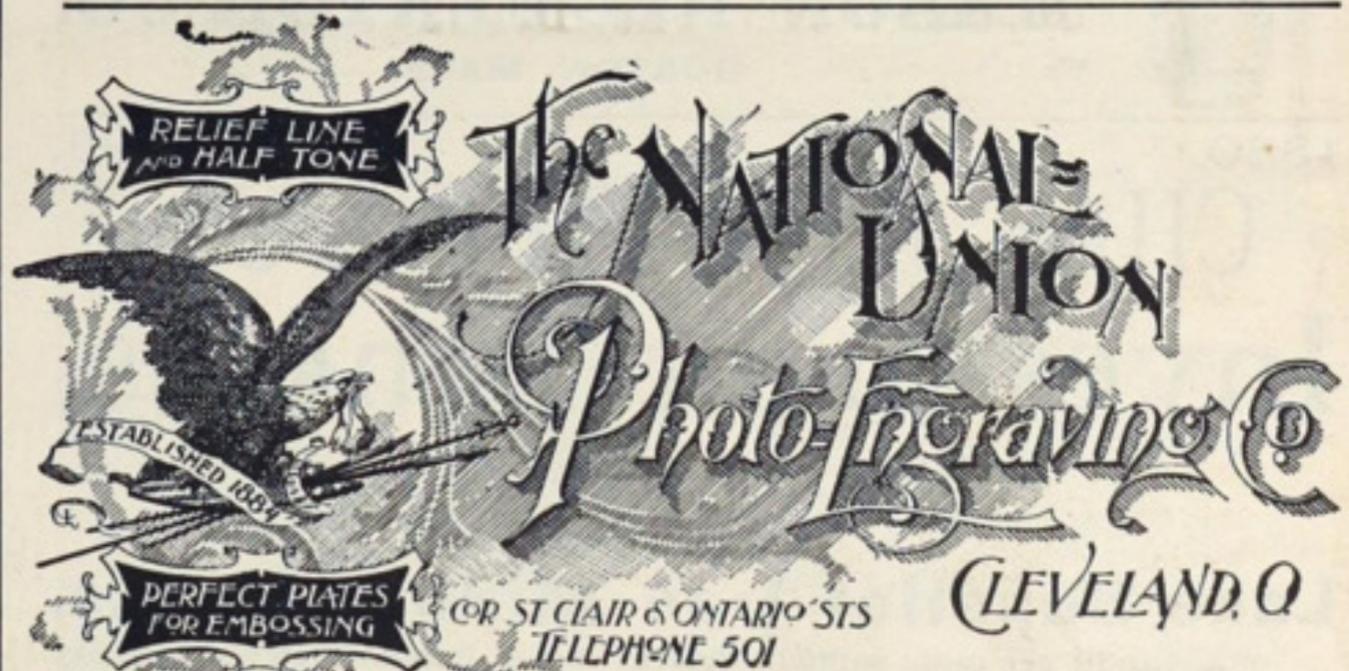
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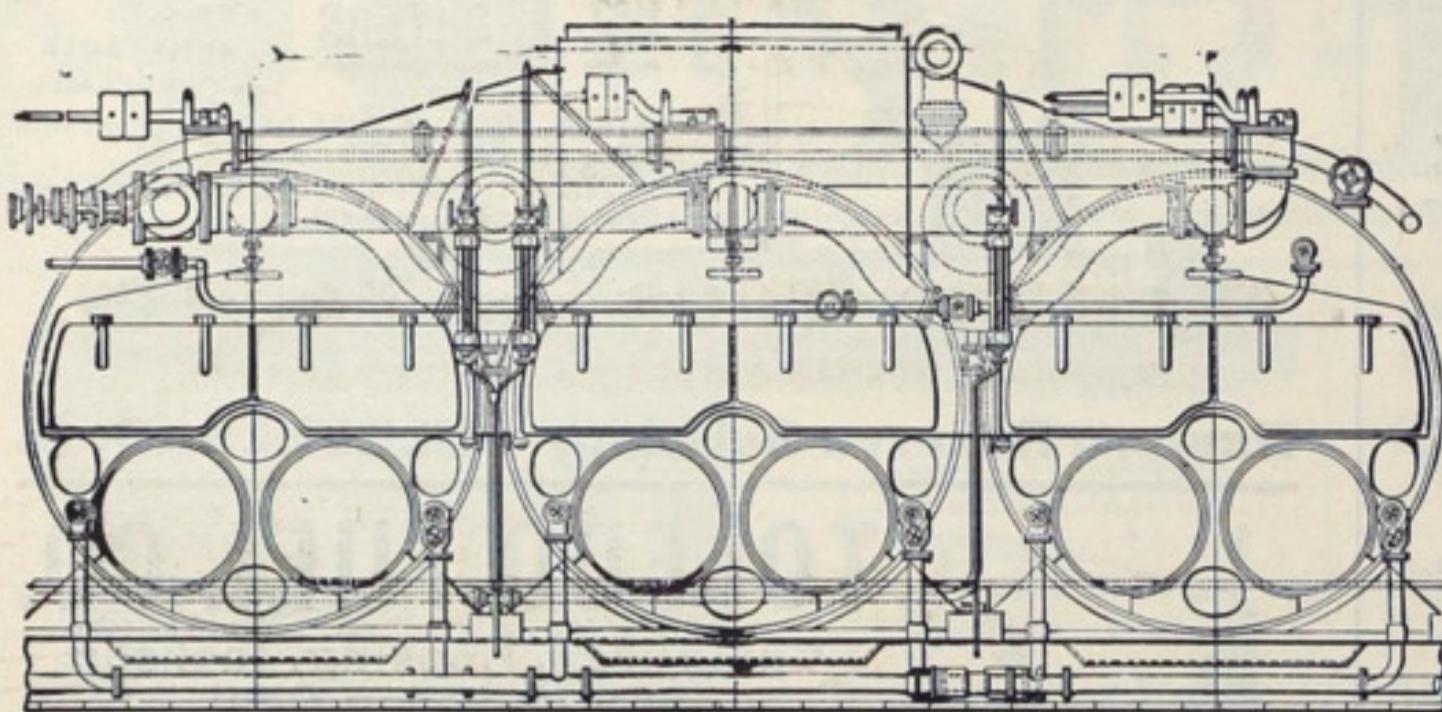
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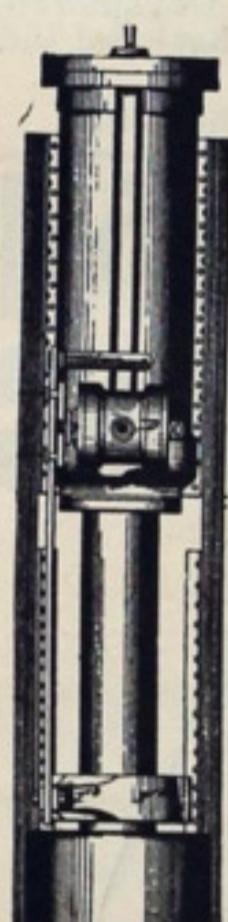
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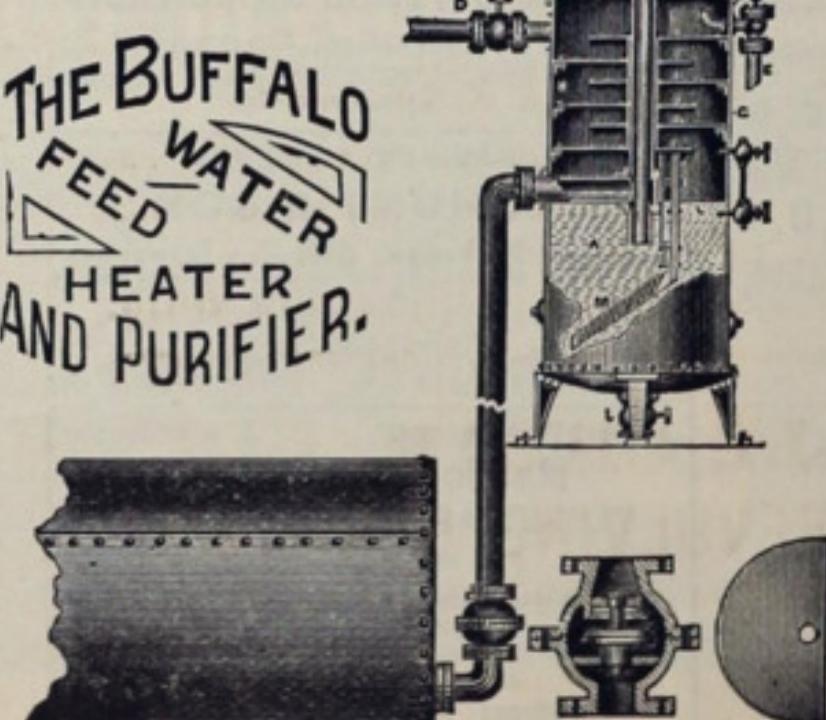
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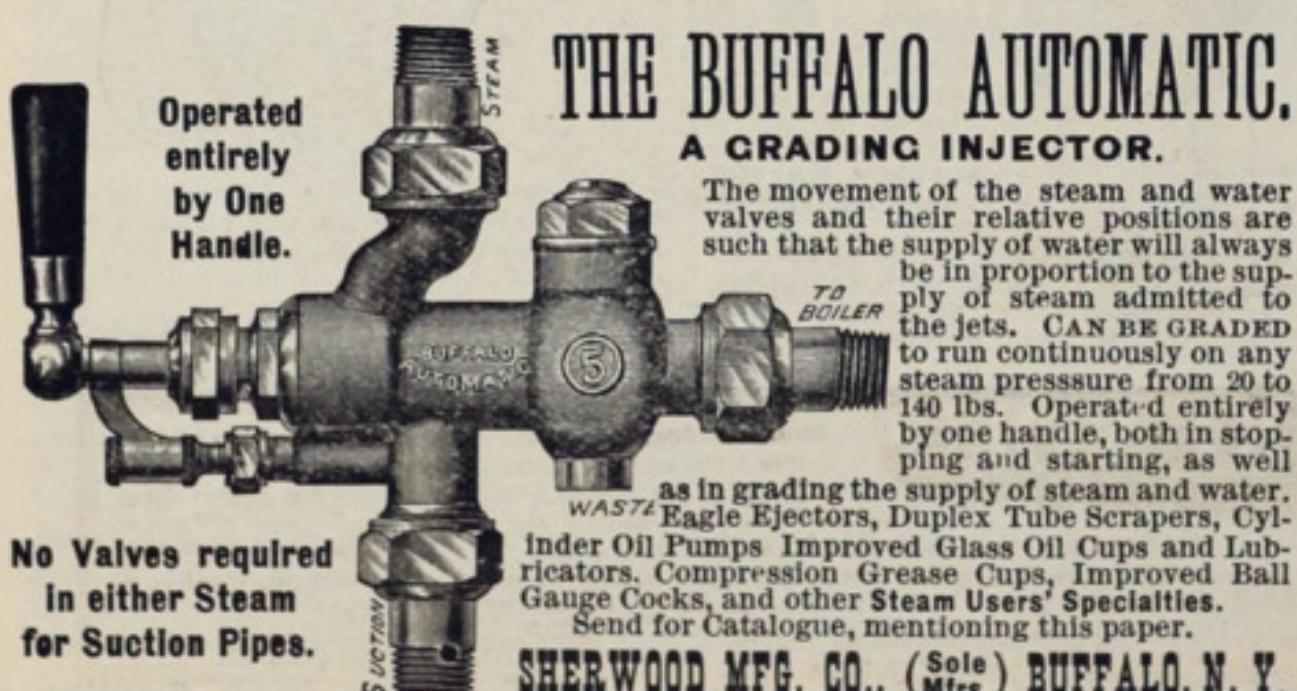
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REFERENCES.

- A.—Settling chamber.
- B.—Boiler.
- C.—Feed pipe to boiler.
- D.—Steam pipe.
- E.—Water supply pipe.
- F.—Check valve.
- G.—Spray disks.
- H.—Spray chamber.
- I.—Equalizing tube.
- J.—Blow-off pipe.
- K.—Automatic shut-off valve.
- L.—Division plate.
- M.—Deflector and separator.



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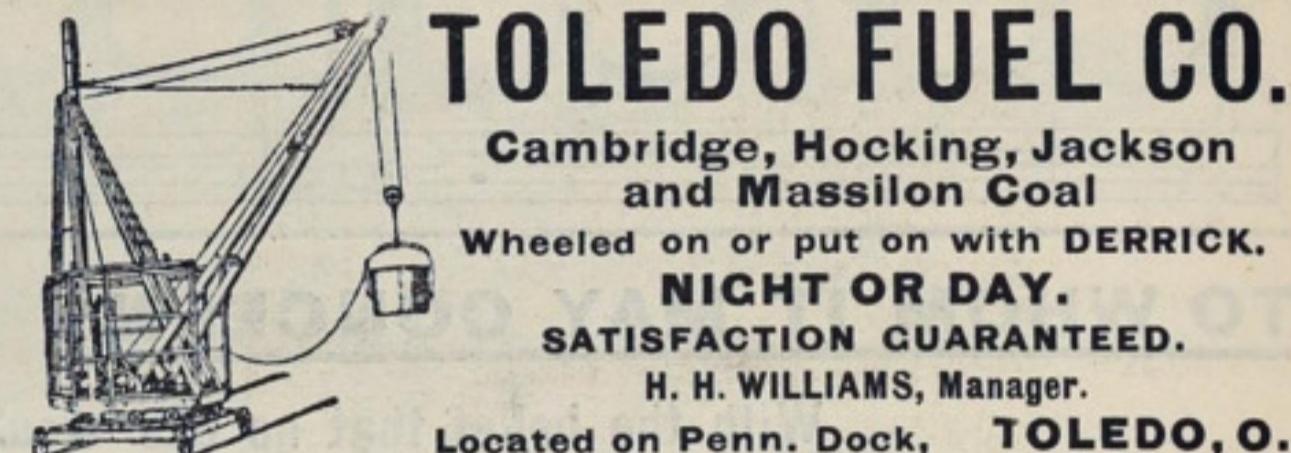


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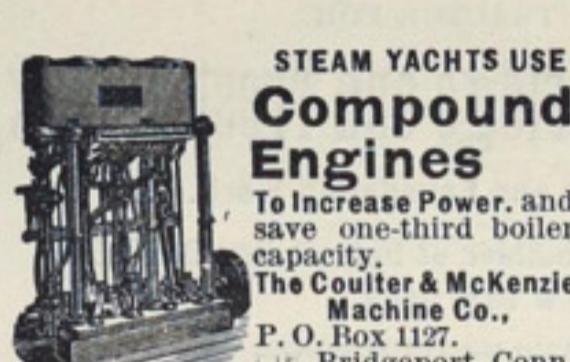
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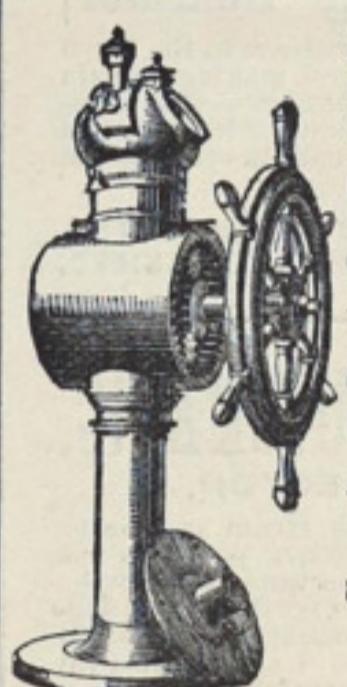
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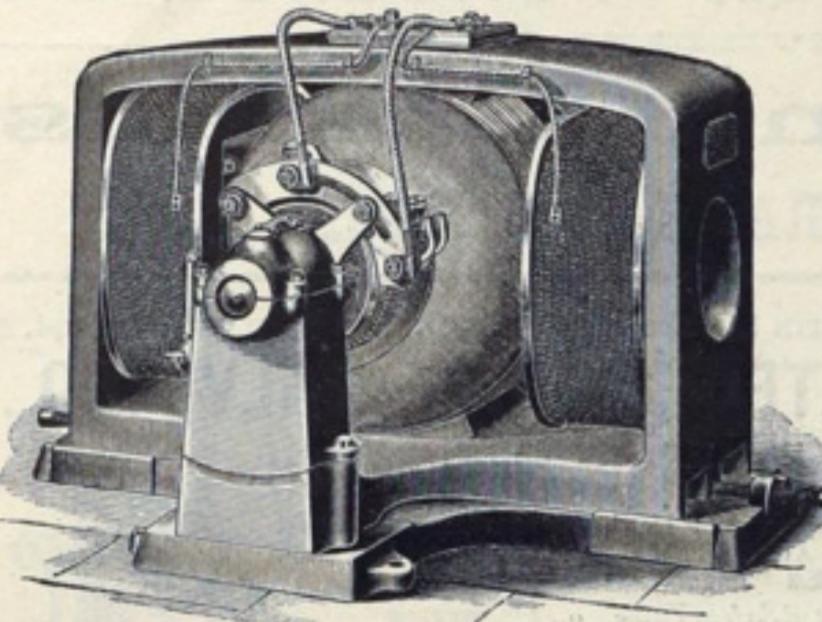
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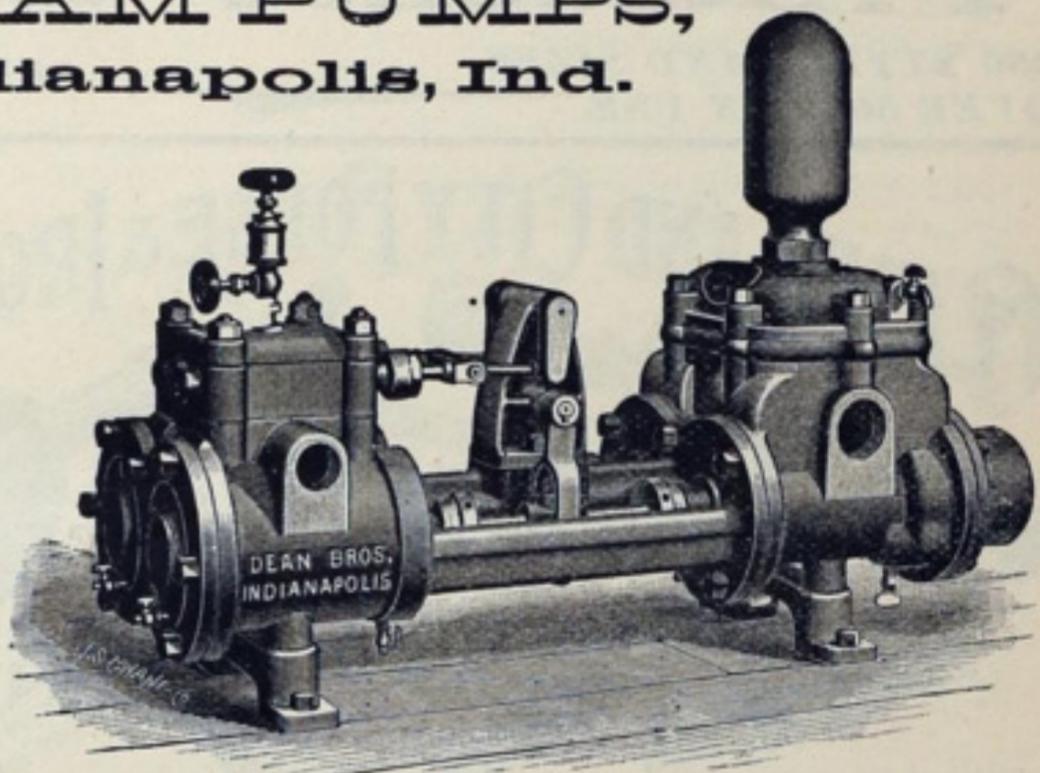
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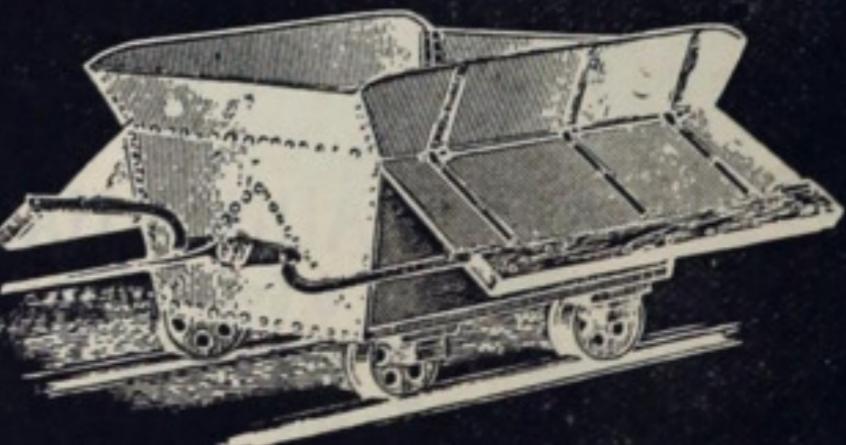
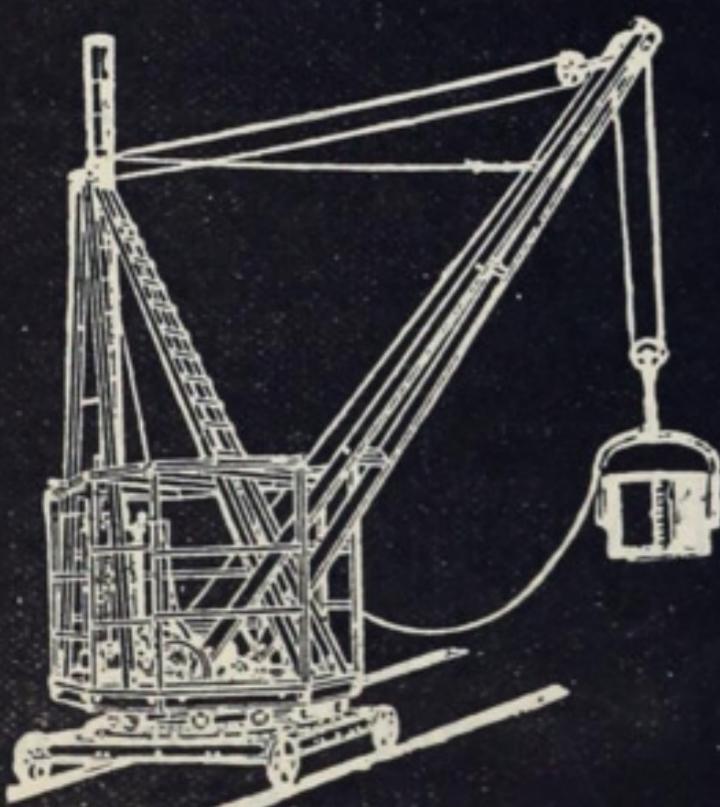
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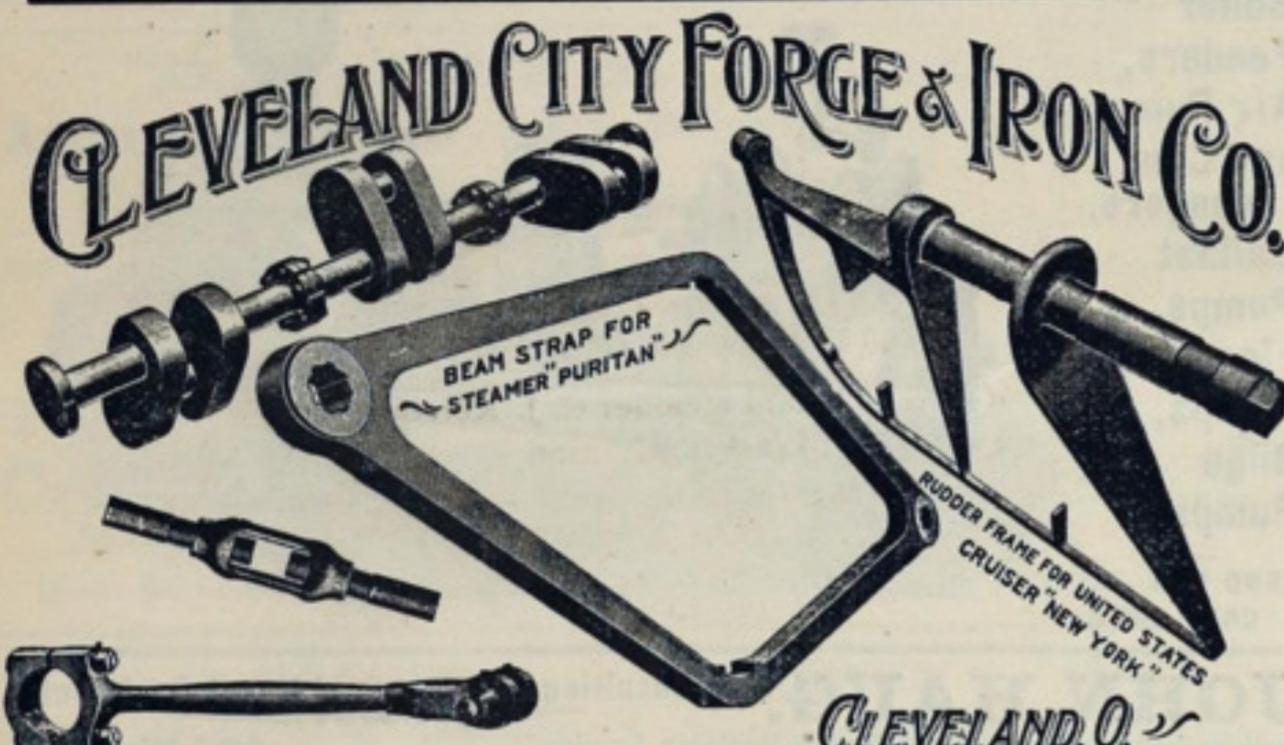
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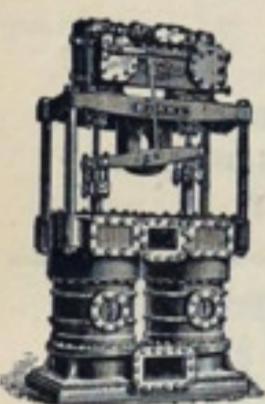
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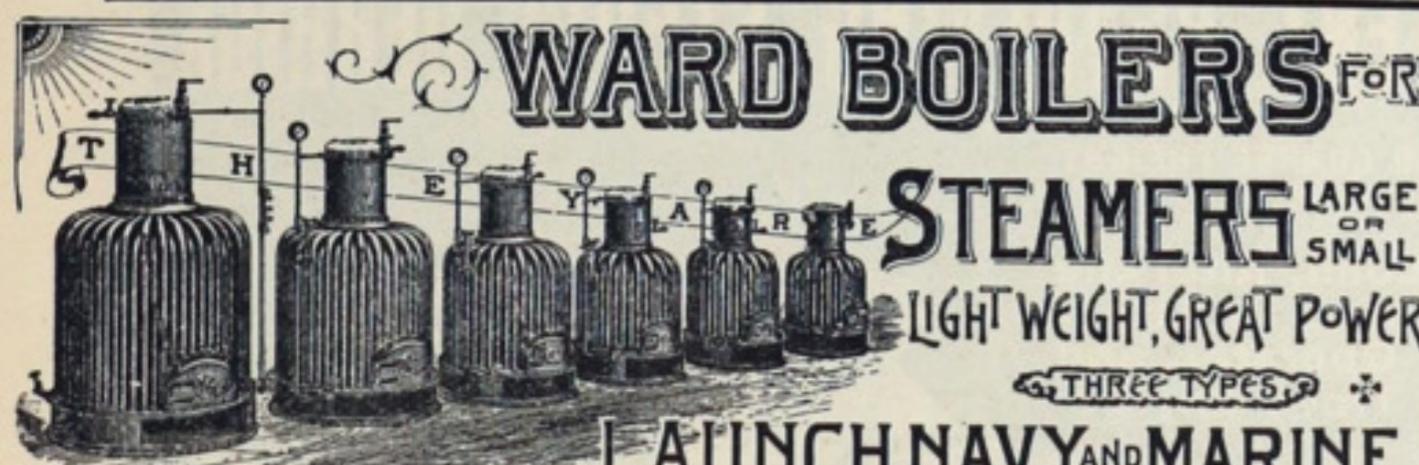
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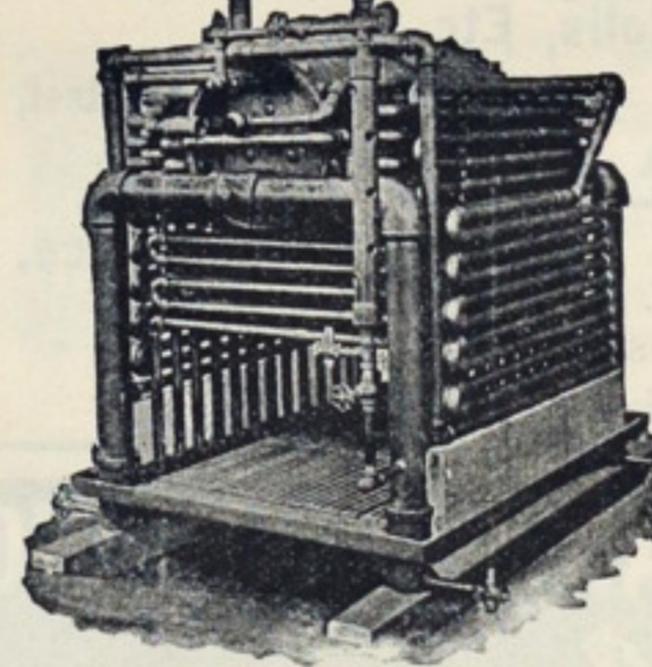
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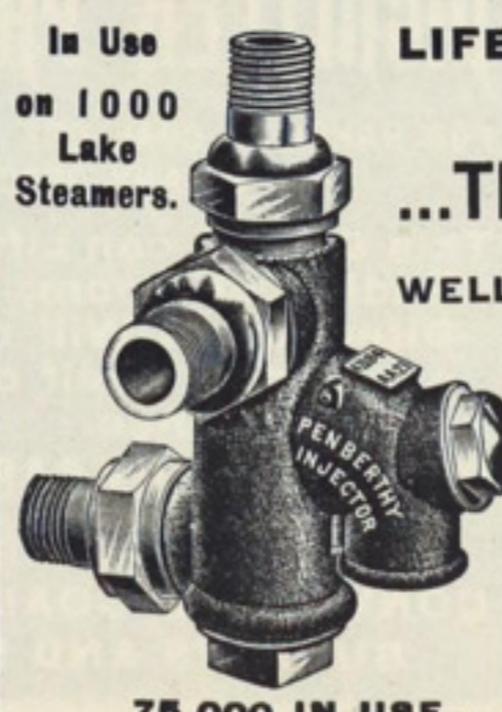
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